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PROFILES

November 1985

The Magazine for Kaypro Users

Special focus: Business

Accounting software

Do-it-yourself and commercial
packages



Smart Ideas — Just In Time
Holiday Gift Guide

HANDYMAN

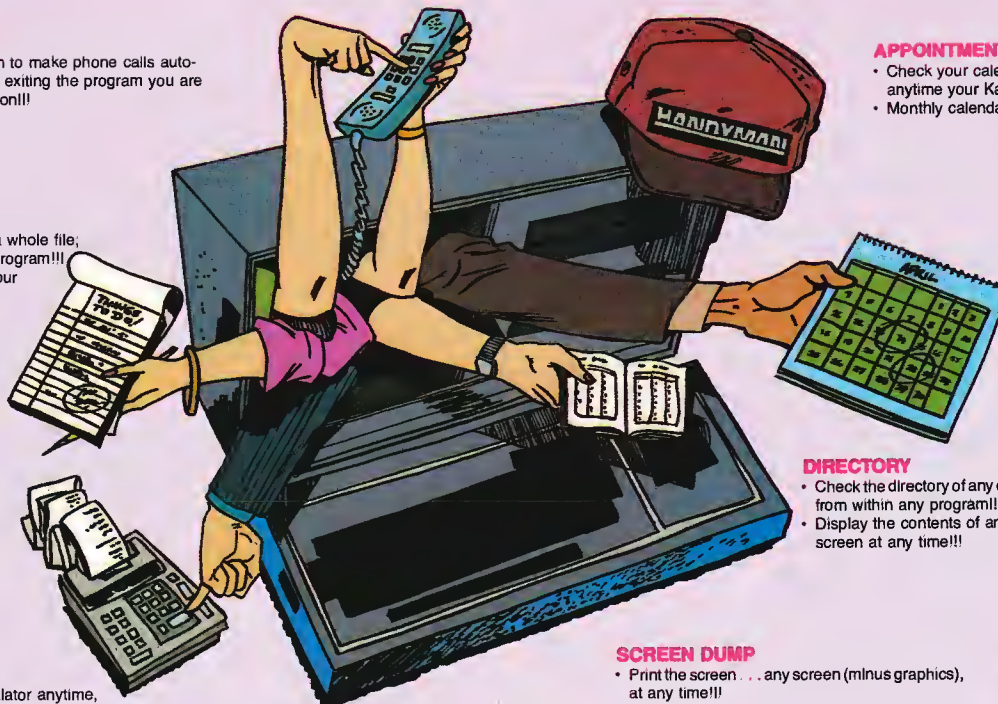
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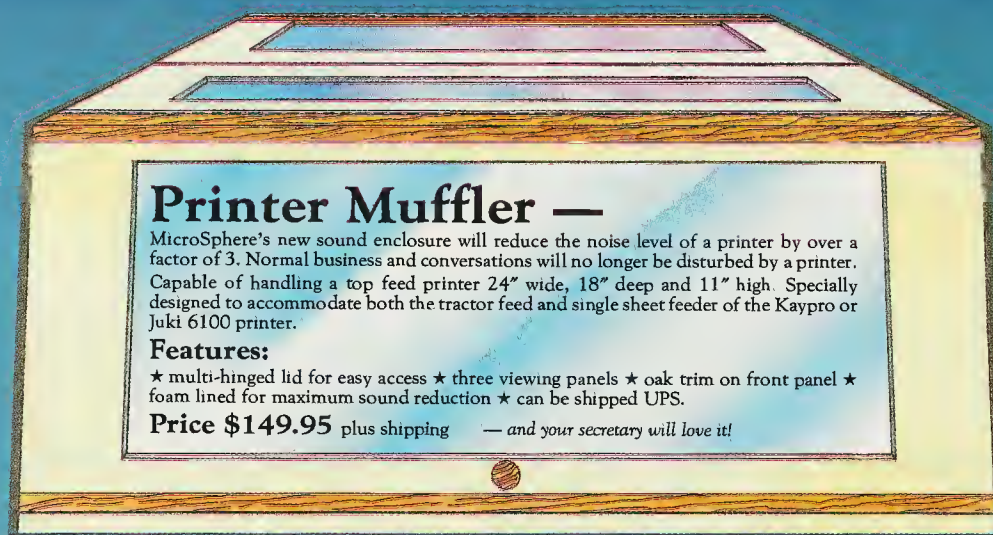
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PROFILES

Volume 3, Number 4
November 1985
The Magazine for Kaypro Users



Small Business.....28



Gift Guide.....39



Automating Books.....48

DEPARTMENTS

About PROFILES	4
Letters.....	6
Q & A	8
Technical Forum	65
Advertisers' Index	78

FEATURES

Bookkeeping for Small Businesses.....	28
<i>by John A. Morris</i> Using dBASE II for a general journal and ledger	
Bookkeeping with Perfect Calc	36
<i>by Rose M. Green</i> Can this marriage be saved?	
Holiday Gift Guide	39
<i>Compiled by PROFILES' staff</i> Goodies to please any computer owner	
Automating Your Books.....	48
<i>by Casey Cook and Rick Mattingly</i> Eleven commercial accounting packages reviewed	

COLUMNS

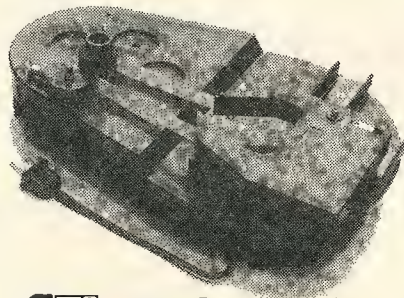
Editor's Notes	10
<i>by Tom Foote</i>	
Life at 300 Baud	14
<i>by Brock Meeks</i>	
Flea Market	20
<i>by Ted Silveira</i>	
Beginner's Luck	59
<i>by Leslie Gadallah</i>	
Books in Brief	68
<i>by Dick Lutz</i>	

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Prestige Elite 12	The Quick Brown Fox Jumps Right Over The Lazy Dog. [\]^`{ }~
Mini Majestic 12/15	The Quick Brown Fox Jumps Right Over The Lazy Dog. [Ω]Δ°½¼²
Letter Gothic 10/12	The Quick Brown Fox Jumps Right Over The Lazy Dog. [Ω]Δ°½¼²

Note: Only Courier 10, Prestige Elite 12, and Roman PS are in the Juki Sequence and only these three can produce diacritical marks for French and German. The rest are in the Special Sequence and capable of printing other substitute characters as shown above. We now carry a full line of 18 genuine Juki-brand printwheels. You can order any Juki printwheel not listed here. Printwheel catalog will be sent free with any order.

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Letters

Corrections

Telelearning Systems (described in "Life at 300 Baud," September 1985) informs us that they serve only MS-DOS, Apple, and Commodore users. Their correct phone number from within California is (800) 44-LEARN.

PROFILES not written for me

So Kaypro has a general store (shoppers' catalog, September 1985). Mugs in appropriately masculine black and white, men's shirts, neckties, baseball caps, black satin jackets that seem to be in men's sizes—but that's taken for granted and not even specified!

What else? All the drawings (and columnists' photos) are of

men, except for a stereotyped drawing of a little girl and a teacher. And, of course, they're all Caucasian.

Funny that *PROFILES* isn't written for me, when my Kaypro and I get along so well! (You have lost one subscriber.)

Lisa Fontes
New York, New York

We're sorry that you saw little of use to you among the advertised products. We've forwarded your letter to the General Store.

Regarding our editorial content, please note that two of September's features were written by women, as were the cover story for July/August and this issue's

article on bookkeeping with *Perfect Calc*. Indeed, six out of *PROFILES*' nine full-time staffers are women—each holding a position of considerable responsibility.

Finally, past *PROFILES* articles that speak specifically to women's issues include "Women and Computers," (September/October 1983) and the "Ms. Perceptions" pieces (January/February and May/June issues of 1984).

We always can and will improve. And it's letters like yours that help us do so.

A new report card

Please pass the following on to your contributors:

Brock Meeks must have had rotten luck if he discovered only "more than 40" Canadian bulletin boards and that they were "most often frequented by Americans exporting their thoughts" ("Life at 300 Baud," June 1985).

Some of the 30-odd boards in Ottawa—not by a long shot the largest Canadian city—list more than 200 other boards in Canada. If Meeks will contact me, I will arrange to download a list for him.

I applaud no end your new "Beginner's Luck" column. It's not the sort of thing I need now, but *PROFILES* had been edging away from novice users and it would be nice if Kaypro still supported them, even though CP/M is practically off the market.

The recent upturn in the quality of *PROFILES* coincides with the expiration of my subscription. I now intend to renew it, but four months ago I would have let it drop.

Donald J.C. Phillipson
Carlsbad Springs, Ontario
Canada

Recently I wrote to you to express dissatisfaction with *PROFILES* (for

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I am not interested in famous people's use of Kaypros, futurology, or Argentina—at least, not for *PROFILES*), but the September issue is excellent. I was very interested in the "Disk Drive Diagnostics" article and the reviews of public domain VDO25 and TOUR20. The reviews of educational programs are interesting as well.

Above all, kindly convey to Ted Silveira my congratulations and thanks for his article on "DU to the Rescue." I had just learned DU myself the hard way, and only wish the article had come out earlier.

I should add that in more than two years of reading *PROFILES* and *KUGRAM*, and of browsing through various books and magazines in libraries and bookstores, I had never come across such a readable and detailed description of the directory. I think Silveira does it just right. His language is appropriate for people who are eager to fiddle and learn but who are not professional programmers or computer scientists.

Franklin Mendels
Columbia, Maryland

Vague areas with DU

Normally, I have found Ted Silveira's work enjoyable and technically right on the mark. But the article about the public domain disk utility appears to have had one major omission and a couple of vague areas that I feel must be brought to your attention.

First, the author of DUU (Disk Utility Universal) was not mentioned. The first vague area came on page 63, the second on page 64 [see Silveira's response below for the details].

I know that these items are rare for *PROFILES*, and even rarer in a piece by Silveira. All this is to plead
(continued on page 18)

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Q & A

by Tom Enright

We welcome and read all your letters. Letters of general interest are printed in the Letters column. Pleas for technical help are dealt with here if they lend themselves to short answers, or in Technical Forum when the question is more involved.

Due to the volume of letters, we simply can't respond to all requests. Problems requiring an immediate reply should be taken to your dealer. Kaypro's Technical Support can be contacted at (619) 481-3920, or write to them at P.O. Box N, Del Mar, CA, 92014. Please include a daytime phone number in all correspondence.

Bundled software

As an owner of a Kaypro 2X, I wonder if you could clear up my confusion about the bundled software. What I want to do is keep track of information on about 400 checks by tracking the date, amount, and an expense category for each check. I would like to be able to get a report giving me the totals of each category and an overall total.

I'm having trouble figuring out which one of the programs that came with my Kaypro is best suited for this task. My Kaypro 2X came with WordStar, CalcStar, Profit Plan, DataStar, and ReportStar.

Edward T. Murphy
Largo, Florida

If you are going to limit yourself to the software that came with your computer, the combination of DataStar/ReportStar seems best suited to this task. DataStar is a database management program, and ReportStar creates written reports on information from the database.

DataStar is a general-purpose database management program, so you would have to design the

database yourself. This entails a certain amount of time spent learning how DataStar works, as well as the time to design the database. Both DataStar and ReportStar come with tutorial manuals to help you learn them.

Article database

I am a freelance writer who has an early Kaypro II. I write a weekly opinion column for a local paper and need a method of keeping track of my past work. Currently I have 26 single-sided disks containing letters and manuscripts. Finding a particular file is getting to be quite difficult without a record that relates filenames to the contents of the file.

I would like to generate an alphabetical listing of my manuscripts by title, storage disk number, and status (published or unpublished). My first attempt to create such a file, using Perfect Writer, was not very successful. Is there a program or procedure that would help with this problem?

James Revels
El Paso, Texas

You didn't mention whether your Kaypro came with Perfect Filer as part of the bundled software. If it did, this kind of a database would be well within Filer's capabilities. If Perfect Filer didn't come with your computer, I'd recommend buying something like dBASE II, DataStar, or one of the smaller database managers, such as FYI. Any of these programs could handle your database needs.

Sloppy accent

In October 1984 I purchased a Kaypro 2X in what was advertised as the "Student Pack." The problem is that WordStar crowds characters when the apostrophe is used as an

accent aigu overprint character. Sometimes crowding is so tight that there is some partial overprinting of the previous character. This doesn't occur with other overprint or user-defined characters. How might this problem be corrected?

Bryan Prud'Homme
Boulder, Colorado

This sounds more like a printer problem than a problem in WordStar. Your print sample shows that the problem is not related to proportional spacing, which was my first thought. I assume that you are getting the apostrophe to overprint by preceding it with ^PH. Working on that basis, I can see three possible solutions.

Solution #1: Instead of overprinting a character with the apostrophe, overprint the apostrophe with a character. (Enter ' ^PHe instead of e ^PH '). Your printer appears to get confused about horizontal spacing after the apostrophe. So try reversing the order of the characters to see what happens.

Solution #2: Try assigning the command ^PH ' to one of the user patches (^PQ, ^PW, ^PE, or ^PR). If you haven't already done so, reinstall your printer as a DIABLO 630 with WINSTALL.

Solution #3: If the other two ideas don't work, you'll have to try getting your dealer to swap your printer for one that works correctly. This is a last-resort solution, because I doubt that your dealer, or Kaypro, will be very receptive to this idea as a cure for your problem.

Drive problems

My 1984 Kaypro 2X came with CP/M 2.2G and, as far as I can tell, this makes it incapable of copying most software written for the

Kaypro 2 and 4.

Tracking down the problem was a feat in itself. The symptoms were repeated BDOS ERROR messages, BAD SECTOR messages, "I cannot read your diskette" messages, and a grinding noise in the drive whenever I tried to copy a disk (e.g. a public domain disk from Micro Cornucopia). Neither PIP nor COPY would copy files. Someone from my KUG diagnosed the problem as a misaligned drive and suggested that I have the drives aligned.

The troubleshooter at the dealership in Tucson identified the rare breed of CP/M as the problem. The only solution he could offer was to copy the disks on another machine.

If this is indeed the only solution, then the folks in R&D should be ashamed of themselves. For someone living in the boonies, like me, a 50-mile drive to copy disks is more than inconvenient.

Brian Connery
Benson, Arizona

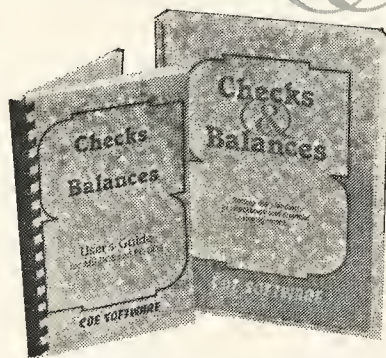
The version of CP/M you're using has never had, and will never have, any bearing on a Kaypro's ability to read a CP/M diskette. And Micro Cornucopia sends its software on single-sided diskettes to remain compatible with all Kaypro's CP/M computers.

You should prepare a bootable destination disk with PIP.COM and D.COM on it. Put that disk in drive A and the disk you want to copy in drive B. Warm boot the computer (enter ^C), type PIP A:=B:*. *[OV] and press RETURN.

If your computer still refuses to read the source disk, the problem is either your B drive or the source disk itself. If anyone else's computer can read the source disk, the problem has been isolated to your disk drive—it needs to be aligned or cleaned. □

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Editor's Notes

Inside Kaypro

by Tom Foote

What's happening with Kaypro?" Your letters have long urged us to answer that and related questions. And we've resisted, mostly out of concern for our identity, I think. Sure, it's no secret that we're published by Kaypro Corporation (see "About Profiles"). But our charge is to serve you, the user, with our product, *PROFILES*—not to make or sell computers. We know we do that best by maintaining editorial distance from Kaypro—i.e., by never hyping Kaypro or Kaypro products and by sustaining credibility that makes it clear we're on your side first.

Nonetheless, you have repeatedly insisted that we write about Kaypro. Okay, you win.

Not immune

Times are rough all over for micro-computer makers. Like Apple, Commodore, Televideo, Eagle, and most others, Kaypro has not been immune. Though Kaypro sales have made huge jumps—from \$3.9 million in 1981, to \$119.6 million in 1984—it now appears that 1985 sales will fall short of 1984's.

Marketing Vice President David Kay says, however, that he is pleased with the way Kaypro has weathered the storm, remaining among the top half-dozen firms ranked by market share of units sold for its class of computers.

Kay further noted, "We've received some excellent reviews on our 286i and 2000. Moreover, both have given Kaypro an improved

positioning to seek large government and corporate orders."

Geoff Soule, Kaypro's director of marketing communications, commented on the slump and Kaypro President Andrew Kay's reaction to it. "Andy has seen this company through very difficult times in its 33 years—including the aerospace slump of the sixties. He's a stubborn survivor. Most important, he loves this place. It's a chunk of him."

Latest products

You've also pleaded for news about Kaypro products, and we've delivered. However, since announcing the Kaypro 2000 lap-top (*PROFILES*, June 1985) and the IBM AT compatible 286i—Model B (*PROFILES*, May and July/August 1985), Kaypro has released Models A, C, and D of the 286i. Each offers successively more features, starting with the Model A's 512 KB of RAM expandable to 15 MB, one 1.2 MB floppy drive, a real-time clock, and GW-BASIC (suggested retail: \$2,995). The top of the line, the \$5,995 Model D, comes with 640 KB of RAM, also expandable to 15 MB, color graphics, a 20 MB internal hard disk, a streaming tape drive backup with 60 MB per cartridge, plus software.

Kaypro now offers two versions of the 2000 as well: the same \$1,995 standard 256K version described in *PROFILES'* June 1985 preview and a \$2,490 version with 768K RAM and a Hayes-compatible 300/1200 baud internal modem.



Also, Kaypro is now releasing its line of accessories for the 2000. The "Base Unit" plugs in beneath the 2000 and contains two IBM card slots, one 5 1/4-inch drive, space for either a second 5 1/4-inch drive, a 3 1/2-inch drive, or a hard disk, and serial and parallel ports. The cheaper "Multi-Adapter" contains a two-thirds length video card slot (e.g., for an RGB monitor) and ports for connecting the 2000 to external disk drives without need for a base unit. Other accessories include the "PC Card and Cable" for connecting the 2000 to an existing PC, additional external 3 1/2- and 5 1/4-inch drives, a snap-on telephone that makes for a one-piece voice and data workstation, automobile cigarette lighter power adapter, external battery pack, and upgrades that turn the standard 2000 into the 768K RAM/modem version.

As we go to press, Kaypro nears release of a fully bundled IBM-compatible, dual-floppy desk-top, complete with monitor and priced to compete with the inexpensive PC clones of Leading Edge and Tandy. David Kay predicts 80 percent of the new machines will be sold to business, 20 percent to home users. "Business wants a workstation; the market for home units will be on the wane until a new generation of software arrives."

So much for editorial distance. The readers made me do it. □

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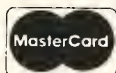
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by Brock N. Meeks

Mark Davis is about to realize the financial success he has always dreamed about. Davis' two-year-old electronics company recently landed a contract to supply manufacturing companies in Singapore with communications hardware and support. His young company beat out larger, more established firms on the strength of strategic planning, old-fashioned hard work and an ace in the hole: a private electronic mail (Email) network.

By setting up a private Email network, Davis bypassed the expense of similar commercial networks, which can cost as much as \$1,000 per month and \$25 per connect hour—a luxury that's usually reserved for the international conglomerates.

Catch-22

Large corporations, able to afford the expensive Email networks, are the predominant users of these services. Email allows a corporation instant communication among widely separated offices. Statewide or worldwide, Email frees corporate communications from the constraints of time and geographic boundaries. And in today's business world, the swift exchange of information can mean millions to a company. Large corporations make the most of telecommunications;

Life at 300 Baud

Email networks for the rest of us

small businesses are left behind.

Typically, small businesses can't afford to use high-priced Email services. But if they expect to remain competitive with companies that do, they can't afford *not* to use them. It's a classic "catch-22."

Enter a couple of guys who never got the word (or, for that matter, saw the movie or read the book) that small business couldn't compete with corporate Goliaths.

Networking for the little guy

Out of the computer bulletin board arena have come two distinct software packages. These programs enable a small business or other small organization to set up a private electronic mail network, with the added advantage of computer conferencing.

price of a phone call.

High school hackers

ModemMail is the brainchild of Tom Felsner and Dwight Pauling. As high school buddies, Felsner and Pauling spent their time hacking out computer programs. As time progressed, they ended up as systems programmers.

To stay in touch and keep their hacking relationship intact, they wrote a small communications program that allowed their computers to automatically call and deliver text files to each other. (Felsner works on the West Coast, Pauling in the East). They used the program to trade information on a software package they were developing. Their first project: a CP/M-based electronic mail network.

*You can customize
ModemMail to act as
a "gateway" to other
Email systems.*

One package, ModemMail, from AutoSoft, Inc., is designed for use with CP/M computers. The other, Tom Jennings' FidoNet, is for use with MS-DOS computers (like the Kaypro 16 and 286i). Both packages are similar to commercial Email and computer conferencing systems, at a fraction of the cost.

ModemMail is sold commercially, and FidoNet, a public domain program, can be had for the

"We struggled with the development of the commercial package for months," says Felsner, "until we realized that the system we were using (to trade information) was working better than the one we were trying to develop."

They scrapped the program in development and decided to refine the system they were using. The result: ModemMail.

ModemMail, developed using a

Kaypro 10, allows you to create a sophisticated "store and forward" Email network within the framework of a BBS.

Users of a ModemMail system can call in and read or post messages as they would on a regular BBS. And they can send messages to users on remote systems within the same ModemMail network.

A ModemMail board stores messages until a specified delivery time (designated by the sysop) and then forwards the messages to the appropriate systems (usually at night, when phone rates are lower).

This way a business with scattered offices can create a private Email network and bypass the expense of commercial timesharing systems.

ModemMail is a development program somewhat like dBase II. It has a built-in programming language that uses English-like commands to create customized routines and applications.

By customizing the program, you can develop your network so that it acts as a "gateway" to other Email systems. (A gateway allows incompatible systems to send messages back and forth.) You can have your network send Email to and receive it from commercial services such as MCI Mail, CompuServe or The Source.

There is an extensive security system built into the program. Users can choose to encrypt messages before they are stored. This way, even if someone cracks the system's security and gets into the message base, the messages can't be read. (A special password is needed to decrypt messages).

When ModemMail is not delivering electronic mail it functions like a bulletin board system. The BBS can handle up to 32 separate message areas on a single board.

CP/M is not dead. ModemMail is an excellent example of CP/M's underestimated potential.

You can see an example of ModemMail (or order a copy at \$249) on AutoSoft's customer service BBS.

AutoSoft BBS
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This network is no dog

FidoNet can claim that it is the first micro-based BBS network. FidoNet was developed by Tom Jennings and John Madill in June 1984. Jennings' original node is located in San Francisco, and Madill's is in Baltimore. From those two original nodes the network grew to 50 by September 1984 and to more than 160 nodes by February 1985.

Of FidoNet's growth, Jennings says: "Fido is no longer just a piece of software; it has become a complex organism."

The Fido software can be downloaded from any Fido BBS. The only requirement is that you must be running an IBM-compatible computer. The Fido software comes complete with all the files you need to set up your FidoNet (including an 80-page documentation file).

The basic Fido BBS software also includes a regular message section that can be divided into separate areas for discussions on various topics. File transfer is also available using XMODEM protocol or straight ASCII text.

Fido is user supported, and like any good public domain program, the software is going through an evolutionary process.

There are, however, a few minor drawbacks to Fido. First, any message delivery between Fidos must take place at a predetermined time. When a Fido in Montana calls a Fido in Florida, they both must be in the message transfer mode. (There are more than 200 Fidos worldwide, synchronized on Greenwich time, that go into the message transfer mode every day.)

Second, software revisions are not universally distributed. To catch a new revision you must monitor the major Fido nodes. This can be a problem for a small company that runs an internal FidoNet, because its private network will not be in direct contact with the main body of FidoNet users.

Third, the Fido software only

transfers mail between FidoNet nodes. This is not a major problem, but it keeps Fido from becoming a true gateway network.

For Kaypro 16, 286i or 2000 owners, the FidoNet can be a tremendous business tool. Because of the program's wide range of support, most application problems can be solved overnight.

For a small business or non-profit organization wishing to set up an electronic network, a FidoNet offers a likely route. And since the Fido software is free, what have you got to lose?

Fido #1

Location: San Francisco, CA

Phone: (415) 864-1418

Hours open: 24/day

Log-on: password issued at log-on

Baud rate: 300/1200/2400

Etcetera department

After years of using and writing about BBSs, I figured it was time to run one of my own. I am now in the process of setting up my own BBS, The Electronic Pub, which will be online in December. I'll give you the details in the next column.

The column on international BBSs (June 1985) drew a great response (though still no word from the Soviet Consulate), and in one response, a great correction.

If you will remember, I stated that I could only find two BBSs in all Australia. I'm happy to say there are many more.

I received a wonderful letter from George Kunz, secretary-treasurer of the Kaypro Users' Group of Victoria, noting the names and phone numbers of more than 50 active Australian BBSs. (Thanks, George. I'll down my next Foster's in KUG-VIC's honor.)

Speaking of international BBSs, I received several other numbers (including some for those elusive boards in France) that I will be uploading to various systems in a newly revised version of the IN-TERBBS.TXT file.

And now, if you'll excuse me, I think a computer in New York is waiting to deliver some mail . . . □

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(continued from page 7)

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Richard Buro
Temple, Texas

Silveira responds:

You're right. In fact, these aren't "vague" points—they're mistakes. On page 63, the second column, second paragraph, the second sentence should read:

"For example, MONSTER's first directory entry jumps from group 12h to group 19h, and its second entry jumps from group 1Fh to group 28h; the missing groups (13h-18h and 20h-27h) have been allocated to other files somewhere else in the directory."

This correction makes the sentence match the information given in Listing 2.

On page 64, first column, in the paragraph headed "Moving around the disk by group numbers," a line was accidentally dropped during production. The third sentence of that paragraph should read:

"This figure indicates what allocation group you're in. The number to the left of the colon gives your current group number, and the number to the right of the colon indicates your current sector within the group (both in hexadecimal)."

I apologize for any confusion these errors may have caused. DU is tricky enough without these added obstacles.

I also agree that it's far too easy to take these tools for granted. Credit is due to Ward Christensen, the author of DUU, from which DU-V88 is descended, and to many others who continued to develop it to its present state, including Ron Fowler, Bruce Ratoff, Keith Peterson, Jeff Nonken, Irv Hoff, Sigi Kluger, Peter Haas, and Bob Clyne.

Don't let the New Coke scare you

In "Editor's Notes" (September 1985), you compared what you are doing (extending *PROFILES'* coverage to include MS-DOS) with the New Coke "tragedy." Coca-Cola's problem did not come from the New Coke itself. In fact, all of their research showed that people really enjoyed the taste of the New Coke.

However, Coca-Cola had failed to ask if the people were willing to give up the old formula. As everyone saw, no, Americans were not willing to give up the old.

You are not going to eliminate CP/M from your pages and replace it with MS-DOS. You are adding something that people want. As an owner of a Kaypro 4'84 +88, I will truly find the service a necessity.

Presently, I use predominantly CP/M software and use the MS-DOS very sparingly. I have little need for it, since CP/M does all that I need, and my only experience with MS-DOS is at school. However, by knowing more about it, I can see that my 8088 will come to use.

Good luck with the change! I am sure that Coca-Cola wishes it had done the same.

Tom Allard
Fresno, California

I got a small twinge of alarm when I read your editorial plans to let MS-DOS creep into our magazine. Not that I mind MS-DOS, so long as I will forever have support for my Kaypro CP/M. But will this intruder MS-DOS, which has so bloody much space in all the other publications, be like a cancer in *PROFILES*, growing forever to take over all?

You can bet your sweet debugging tool that many of us are watching this possibility like hawks. If you haven't seen it before, you will

certainly see the explosive powers of your readership if you succumb to Big Blue as did (and does) everyone else. There's been a certain exclusivity about Kaypro and CP/M that make many of us proud, even smirky. Why don't you leave growth to Big Blue; they seem to think it's so almighty important.

And reader David Richieh ("Letters," September 1985) is so right in encouraging you to forget keeping us updated on the use of computers in Third World countries. Who cares? Your precious few pages can be far better used with useful information for those of us who pay for your magazine's existence with American money for subscription renewals . . .

Marshall King
Woodland Hills, California

In response to your first point, we do not foresee MS-DOS coverage growing cancer-like in PROFILES.

As to the second, perhaps it should be pointed out that there are Kaypro owners throughout the world and that PROFILES is distributed to thousands of readers internationally, with subscribers in a number of Third World countries.

More on "Who cares?"

This is just a whimper in the desert. I agree with the letter from Dave Richieh. I am sick of not being able to make various programs function on my Kaypro 4'84. With the exception of WordStar, I find that the programs I send away for are so full of bugs that I simply give up, write off the expense and sulk.

Francis P. McCamley
Hyattsville, Maryland

"NEXT TO MY SOFTWARE, NOTHING'S MORE USER FRIENDLY THAN THE WALL STREET JOURNAL."

WILLIAM H. GATES III, CHAIRMAN, MICROSOFT CORPORATION

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IN PRACTICALLY NO TIME

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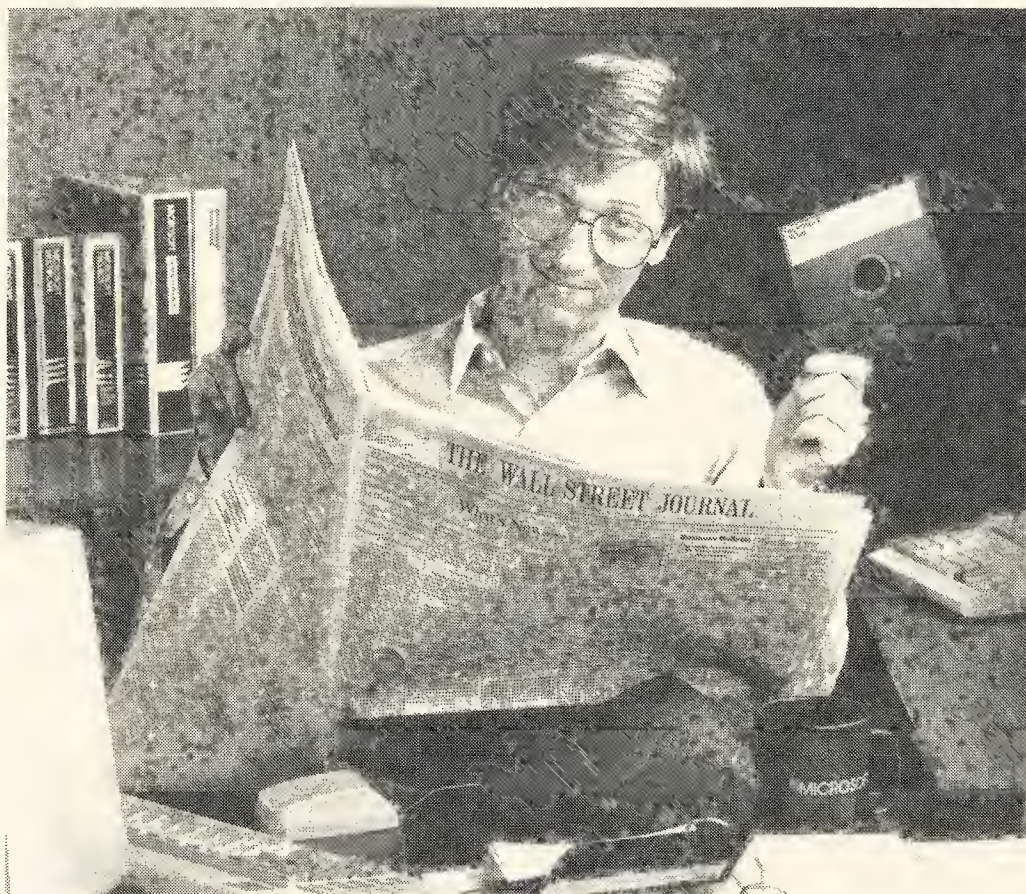
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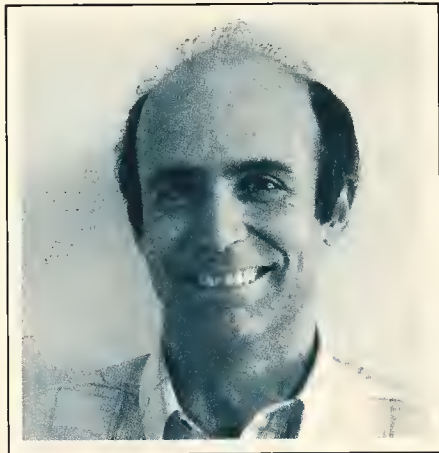
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by Ted Silveira

Some months ago, I was skimming through *Byte* magazine looking at their new product ads (my favorite part). Halfway through, I started muttering under my breath as I noticed ad after ad that described a program in glowing terms but didn't say what computers it would run on. "Lousy advertising," I grumbled. "Do they think I'm a mind reader?"

Then the nickel dropped. The ads didn't say what computer they were aimed at *because everyone took it for granted that the new programs were for the IBM.*

I was depressed. I had a craving for something new and different, but it looked like I was out of luck. Not so. There are some genuinely new CP/M programs starting to surface. The first one I've gotten my hands on is Write-Hand-Man, a RAM-resident program that brings some features of Sidekick, the MS-DOS favorite, to CP/M.

A RAM-resident program gets loaded into the upper section of your computer's RAM (random access memory) and stays there while you run application programs like WordStar or dBASE II. The RAM-resident program remains transparent until you call it into action with a special keystroke (like ^/). Then it jumps in, does its job, and disappears again, leaving your main program none the wiser.

Flea Market

Pop-ups for CP/M Kaypros

Key-definition programs work this way, as do print spoolers.

Pop-up desk accessories

Recently, another kind of RAM-resident program has become popular in the IBM world—the pop-up desk accessory, represented by Sidekick, Spotlight, and others.

With these programs, you have instant access to a notepad, a calculator, an appointment calendar, a phone book, and other useful tools. No matter what other program you're running, you can touch the magic key and the desk accessory pops up on your screen, ready to work. If you need to do some math while writing a report, for example, you can pop up the calculator, punch in the numbers, and then return to your report as if you'd never left.

These programs eat up a lot of RAM, though—60K, 70K, and more. Because CP/M computers are limited to 64K RAM, few people ever expected to see Sidekick running on a Kaypro.

Enter Write-Hand-Man

Write-Hand-Man, from Poor Person Software, is a pop-up desk accessory that runs on any computer using CP/M 2.2, including the Kaypro. It isn't Sidekick by any means, but it does bring some of Sidekick's functions to CP/M. Once loaded into memory, it gives you quick access to a notepad, a calculator, a phone book, and an appointment calendar, and it lets you check the disk directory or

view a text file.

When you call Write-Hand-Man, it opens a small window in the upper left corner of your screen and shows you a menu of functions. All the action takes place in this part of the screen, in windows ranging from 16 to 32 columns wide and from 8 to 12 lines long.

The standard version of Write-Hand-Man (WHM.COM) doesn't restore the screen when you exit; it leaves a blank hole where the windows were. Programs like WordStar can rewrite the screen themselves and fill in this hole, but other programs can't. So you also get a special version of Write-Hand-Man (WHMT.COM) that *does* restore the screen when you exit, but also takes up more space.

Surveying its features

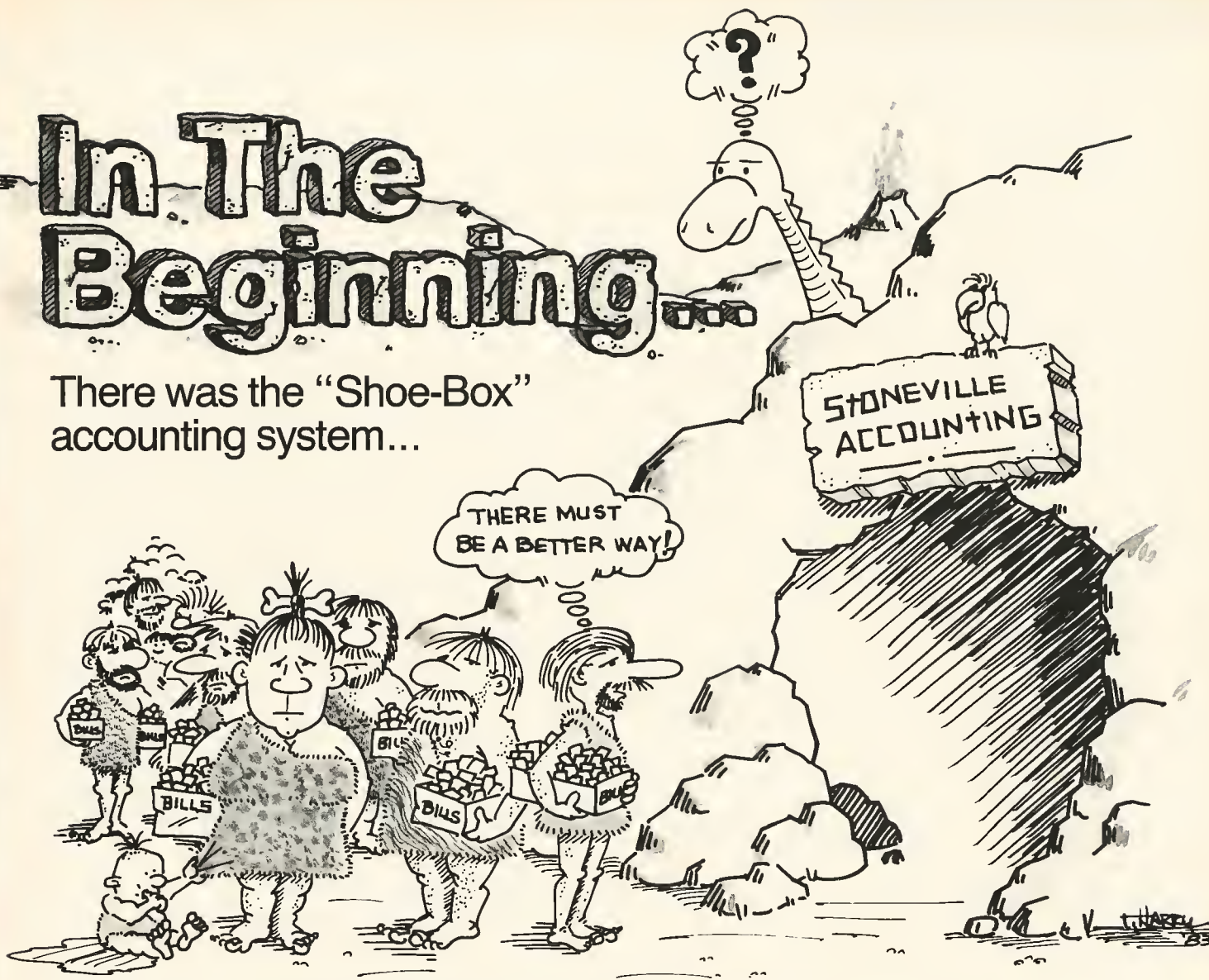
Using Write-Hand-Man's notepad, you can write notes and save them to disk in the middle of any other program. You can do some limited editing, but the notepad is definitely not a word processor and does *not* let you cut-and-paste from one file to another.

The calculator is limited to four functions (add, subtract, multiply, divide) with no memory or other fancy features. Its severest limitation is that it does integer (whole number) math only—it can't handle decimal points and gives no remainders or fractions in division. It can calculate either in base 10 (our normal decimal numbers) or in base 16 (hexadecimal numbers).

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FLEA MARKET

notepad, except that each page is labeled with a pair of letters (A-B, C-D, etc.). You enter phone numbers on appropriate pages and locate them again by jumping to a particular page. You can't perform any kind of automatic search on the listings, nor can you have Write-Hand-Man dial a phone number.

The calendar is also like the notepad, except that the pages are labeled with days of the week. It handles only two weeks at a time, and the pages carry no dates, only the day of the week (Monday, Tuesday, etc.) and a number to indicate whether it's the current week or the coming one. There is no alarm or other niceties.

Other functions

The file directory function shows a single-column list of files; you can get a directory of either disk and use ambiguous file names (like *.DOC). The file-viewing function

Drawbacks

Write-Hand-Man takes up space—about 3.5K of your computer's working memory for WHM.COM or 5.5K for WHMT.COM. Since CP/M itself already takes 8.5K, loading Write-Hand-Man will leave 50-52K, enough for programs like WordStar or dBASE II to run in. If you have a program that needs more memory, you can temporarily remove Write-Hand-Man.

If you use Write-Hand-Man together with a key-redefinition program, you'll lose a bit more space. I found the combination of WHM.COM and either XtraKey or SmartKey II takes up about 5.5K. And Write-Hand-Man works fine with both XtraKey and SmartKey, though the key-redefinition program needs to be loaded first.

You also must give up some disk space to Write-Hand-Man, about 30K. Each of its functions, like the notepad, is stored on the disk (along

*You're not getting
a full-blown Side-
kick clone here.*

lets you scan forward or backward through a file, though the window is small (eight lines deep by 32 columns wide).

Write-Hand-Man has a communications module that comes in source code only. To adapt it to your computer's hardware, you'll need to know a little assembly language and have an assembler that can produce Microsoft-compatible REL files. What you get is a dumb terminal program with no file transfers or capture buffer.

Write-Hand-Man can also be expanded because it has a "hook" that allows it to run functions not yet available. It comes with the source code for all its functions and a brief set of rules for building new ones so that with Microsoft's M80 (or a compatible assembler), you can rewrite any function or produce your own.

with any associated data files) and is only called in when needed—that's how Write-Hand-Man manages to be as small as it is. If disk space gets tight, you can dump any of the functions you don't use.

Another drawback of Write-Hand-Man is the limited nature of its functions. These are limited mainly by CP/M's scanty memory, but you need to realize you're not getting a full-blown Sidekick clone here. On the other hand, because Write-Hand-Man is open-ended, new functions can be added and old ones expanded.

How useful is it?

I use the notepad a lot. If you're constantly jotting down notes or thinking of two things at once, you probably will, too. I also use the calculator, but only because it can

handle hexadecimal numbers. If you don't program or write about computers, you'll find a pocket calculator more useful.

I don't use the phone book or calendar because I don't have any need to. People who do need such things may find these functions useful, though those with complicated schedules will probably find the calendar too limited.

The file directory and file viewing functions are handy when you use programs that don't already have such functions.

The competition

Write-Hand-Man is not alone. Spectre Technologies, maker of the Rembrandt graphics package, has a program called Presto, which was due out September 15, that Spectre claims is snazzier than Write-Hand-Man in every way. The prototype I saw briefly at the West Coast Computer Faire looked nice, though it took up more memory than Write-Hand-Man and wasn't open-ended.

Extra Desk, from Point Data Products, is another contender. According to its ad, it has all the basics, plus features like a "clipboard" that can capture the current screen, ability to run CP/M's internal commands (DIR, TYPE, etc.); and autodialing of phone numbers. It runs on all models of CP/M Kaypros except for the 2 and 4 of the '83 series.

And Flo-Systems has a product called Handyman that offers features like those of Write-Hand-Man. Presto and Extra Desk through a circuit board that plugs into the Kaypro's innards. Because it carries its own RAM and has its software on a chip, it uses none of the Kaypro's main memory. (Or so the ads claim—I haven't seen Handyman or talked to anyone who has.)

Write-Hand-Man sells for \$49.95 and should run on any CP/M computer. Contact Poor Person Software, 3721 Starr King Circle, Palo Alto, CA 94306, (415) 493-3735. □

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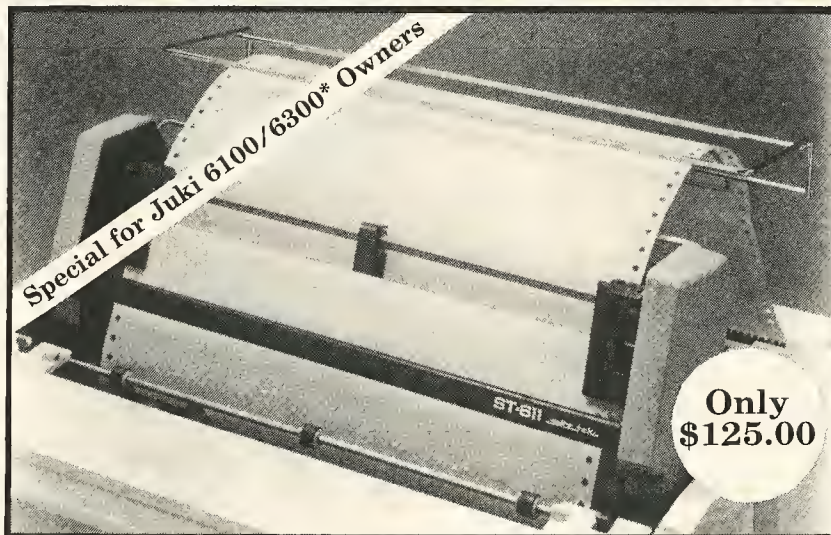
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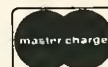
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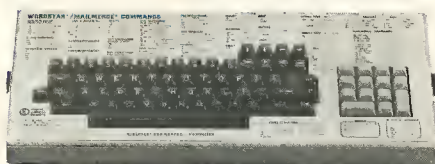
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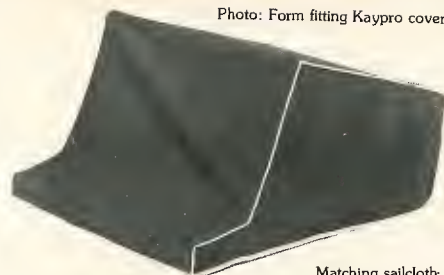


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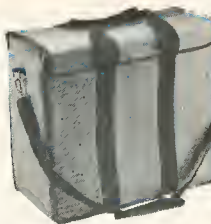
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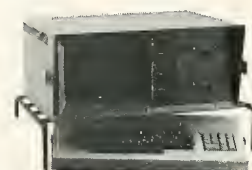
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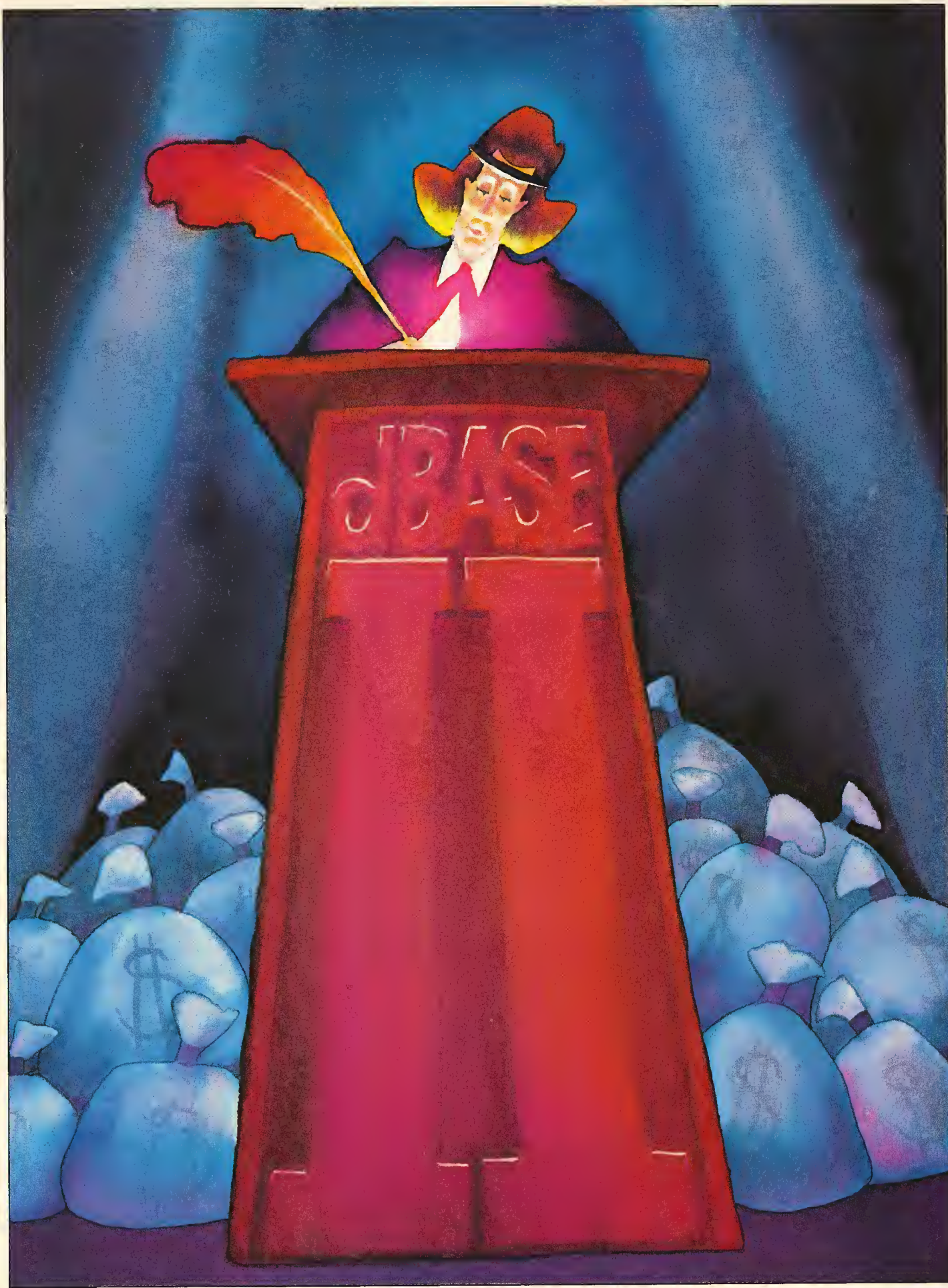
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Bookkeeping for Small Businesses

A general journal and general ledger in dBASE II

by John A. Morris

Ashton-Tate's dBASE II is not a friendly program. On the other hand, it's not nearly as unfriendly as many books and manuals make it look.

To justify their existence, books and manuals have to show you all about the program—and you don't need to know all about dBASE II to make good use of it.

Here we're going to look at a simple dBASE application, one that is powerful, flexible and—if you don't yet have a good small-business bookkeeping program—one that will get you up and running. I think you'll find it a fast and pleasant introduction even if you don't need dBASE for bookkeeping.

What they mean when they say . . .

Let's start with the vocabulary. A *database* is simply a collection of information organized so that you can easily get specific pieces or combinations of it when you want it.

An often-used example is the telephone book. In the phone book, each line makes up a complete *record*. Each record consists of a particular last name, first name, address and phone number. So the phone book database has thousands of records, each one with a name, address and phone number.

It helps to think of a database as a huge grid. Each row, each horizontal line on the grid, is a record. Each column, then, is a *field*. The phone book uses four fields: the "last name" field, the "first name" field, and the "address" and "phone number" fields.

To create a database, begin by naming the fields. With dBASE II, you also establish how many characters wide each field will be. You say whether the field will take both letters and numbers—or just numbers. When the field is numeric, you may specify the number of decimal places you want. There is also a "logical" field, which we won't be using.

How the books look

Double-entry bookkeeping starts with a chart of accounts, general journal, and general ledger. (If you're

using a single-entry system, you'll see how to modify the database to fit your needs.)

The *chart of accounts* is the numbered listing of your various accounts (or "folios"). I wrote mine with Perfect Writer. We'll use the following seven accounts in the sample entries:

- 102 Checking
- 202 VISA
- 301 Capital
- 401 Income
- 615 Dues and Publications
- 624 Office Supplies
- 625 Postage

The *general journal* is the daily record of changes in these accounts. It has two money columns, one for debits and one for credits.

If you prefer to create a single-entry system, change the DEBIT field in the database to EXPENSE, and the CREDIT field to INCOME. Then limit your sample entries to those with a folio number above 400.

If you haven't used a double-entry system but wish to follow along, redefine in your mind the words *debit* and *credit*. Each transaction takes at least two entries, one in the debit column and one in the credit. *Debit* refers to the left money column, and *credit* the right. For the moment, forget any other meanings that you've attached to those words.

For every "debit" entry, then, there are matching "credit" entries. So in the journal, the sum of the debits should always equal the sum of the credits.

The *general ledger* is the place where all the changes are organized or "posted"—with all the check records together, all the postage expenses together, and so forth. dBASE II permits a computerized journal and ledger with several advantages over a pen-and-paper system.

The books and dBASE II

In the system described here, you enter transactions

only into the journal. Once you've made your daily journal entries, you can make dBASE II automatically post them to the proper ledger accounts.

The program also permits easy copying of all your checking account entries into a separate file—where, with a few keystrokes, you get computerized checkbook balancing. You may also “insert” forgotten entries chronologically into the journal.

*Once you've made your
daily journal entries,
dBASE II posts them to
the proper accounts.*

dBASE II adds, subtracts, multiplies, divides and does subtotals. That means it can give you totals and subtotals in the debit and credit columns—both in the journal and the ledger accounts—to help you spot typing errors and establish account balances. The journal and ledger can be sent either to the screen or to your printer almost at will.

Setting up the disks

If you haven't already, copy your master disks. Using the copy disks and your manual, install dBASE II for your computer. At that point, you can make the two disks we'll need here.

Start with a simplified program disk. It takes these files in this order:

DBASEOVR.COM
DBASEMSG.TXT (a “help” file)
DBASE.COM

The disk for the B drive is just a blank, formatted disk. I'm using dBASE II, version. 2.41, with an old Kaypro II, and two single-sided disk drives. Hence the drive designations in the instructions that follow. I put the program disk in the A drive and the blank disk in B.

Preliminaries

Before you enter any program, it's good to know how to get back out of it to the operating system—to the A prompt. In dBASE II, type **QUIT**. No session with dBASE II should be ended any other way. The **QUIT** command allows the program to close files and finish all housekeeping chores.

I limit date information to month and day because I label my disk with the year. dBASE can handle dates many different ways (see *PROFILES*, April 1985, for starters), but we're going to use a simple one.

Unless you plan to do calculations with the fields, the manual recommends character fields over numeric fields. dBASE can tell if one number equals, or is greater or less than, another number, even if the num-

bers are in a character field—thus the character fields for the days and folio numbers.

The manual also recommends naming files so you can recognize them, advice that is almost always worth heeding. With a few large, well-used files, however, I prefer shorter names for faster typing.

Your database

At the A > prompt, type **DBASE** and a carriage return. Most entries are followed with a carriage return (<CR>). For easier reading, I've eliminated most of the carriage returns. If an entry just sits and waits for you, add a return.

When the screen asks for it, enter the date. As soon as dBASE accepts the date, a “dot” prompt—a period—will appear in the upper left corner. This is dBASE's way of telling you it's ready to accept a command.

At any dot prompt, you can type **HELP** and a command. dBASE will display help for that command. **HELP HELP** gives you the reference area of the help file. Now type **CREATE B:GJ** to make your general journal data file.

dBASE automatically adds the .DBF suffix to your file. It asks you for a field name, type of field (character, numeric or logical), the field width and the number of decimal points in the numeric fields. We will be using seven fields. Enter the material below, and don't leave any spaces:

FIGURE 1: THE DATABASE

Field	Name	Type	Width	Decimal places
001	MONTH	C	3	
002	DAY	C	2	
003	ACCOUNT	C	33	
004	FOLIO	C	3	
005	DEBIT	N	8	2
006	CREDIT	N	8	2
007	TRANSNUM	C	3	

Here, you'll be asked to fill in field #8. Hit a carriage return—the standard way to tell dBASE that you're through entering material.

You'll be asked if you want to “Input data now?” Answer N for no.

Commands and data entry

dBASE assumes you're not going to use the file right now. To clarify things (and this is what you do any time you want to use a file), type **USE B:GJ**. Then type **DISPLAY STRUCTURE**. dBASE will show you what the structure of your file looks like.

A word about dBASE II's shorthand: You can enter commands simply as the first four (or more) letters of the command. **DISPLAY STRUCTURE** can be entered as **DISP STRU**. But if you use more than the first four letters, you have to use the correct ones. Otherwise, you'll get a “syntax error” message. You must also spell out field and file names. For clarity, whole commands will be shown here, but you may use the shorthand.

Type **APPEND**. This lets you add material to your database.

The cursor keys and carriage return will let you move around within the record. If you should accidentally get to record #2, go to the dot prompt with **^Q**. At the dot prompt, type **EDIT 1**. **EDIT 1** puts record 1 back on the screen. To "write" your edited version, type a **^W**. To "quit" the editing mode, use **^Q**.

For the month, I prefer to use all capital letters. And single-digit days should be preceded either by a space or a zero. I prefer the space. Carriage returns are indicated by **<CR>**. Make these entries:

FIGURE 2: THE FIRST ENTRY

```
MONTH      : JAN :
DAY        : 1 :
ACCOUNT    : Beginning balance, checking<CR>
FOLIO      : 102 :
DEBIT      : 1000<CR> :
CREDIT     : <CR> :
TRANSNUM   : 100 :
```

Good. You've just made your first entry. Some comments before we go on.

I prefer capital letters for the month because I often use the month to extract data from the database. It's easier to hit the caps lock and do commands in all caps. In the accounts field, which I usually just display, I prefer upper and lower case letters for readability and easier-to-understand abbreviations. If you choose, you can certainly enter information into the accounts field in all caps.

As mentioned above, the number in the day field should be preceded either by a zero or a space. Whichever you choose, you should be consistent. If this were a numeric field, the number would automatically be entered right-justified. You saw how dBASE properly entered the \$1000 in the credit block, complete with the correct number of decimal places.

This is not a problem with the folio and transaction-number fields because the numbers start with 100 and are never under three digits.

Since record #2 is waiting, let's make a second entry. It's a good idea in the account field to indent the credit entry two spaces to distinguish it from debit entries in your reports. Make these entries:

FIGURE 3: THE SECOND ENTRY

```
MONTH      : JAN :
DAY        : 1 :
ACCOUNT    :   Capital<CR>
FOLIO      : 301 :
DEBIT      : <CR> :
CREDIT     : 1000<CR> :
TRANSNUM   : 100 :
```

This, of course, is the matching entry for the checking account balance.

At record #3, a **<CR>** returns you to the dot prompt. (If you've accidentally entered material to record #3, you'll have to use a **^Q** to get back.)

To see your work so far, type **LIST**. With no additional words in the command, **LIST** brings all your records to the screen. With more than a screen full of records, however, the listing scrolls past and cannot be stopped except with a **^S**. Try **DISPLAY ALL**.

DISPLAY ALL does a similar thing, but it shows only 15 records at a time. Since we've limited the length of our records so each fits on a single line, you get a neat, record-by-record display. Databases with records larger than ours are not quite so screen-friendly. Hitting any key brings up the next 15 records.

Now try **DISPLAY**. By itself, **DISPLAY** shows a single record. And since the **DISPLAY ALL** command put us at the bottom of the database as it finished displaying, you see the last record instead of the first. We'll get to the ways you move around in the database as soon as we have a few more entries.



Helpful settings and other information

As you noticed, it's a bit of a nuisance to have to type the month and day each time. dBASE has all sorts of settings to make life easier. Type **SET CARRY ON**. This allows you to carry over data from the previous record, with options to either accept the data as is or to overwrite any field. (Whenever you're at the dot prompt, you can also **SET CARRY OFF**.)

Now type **APPEND**. Record #3 is completely filled in with all the information from record #2. Hit the "down" arrow key once, and your cursor goes straight to the day field, where you want to make a change. You may either type over the information, using the space bar to blank out unwanted letters, or hit **^Y** to erase everything from the cursor to the end of the field.

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BOOKKEEPING

Another handy tool is the ^V to insert rather than overwrite material in a field. A second ^V returns you to the overwrite mode.

The rest of the entries

Let's say you're a writer and you have added the following transactions to your general journal file (B:GJ):

FIGURE 4: THE REMAINING ENTRIES

MO.	DAY	ACCOUNT	FOLIO	DEBIT	CREDIT	#
JAN	3	Deposit, Madly Magazine	102	250.00	0.00	101
JAN	3	Income, Madly Magazine	401	0.00	250.00	101
JAN	4	Office Supplies, paper, disks	624	37.70	0.00	102
JAN	4	Ck410, Computer Dynamics	102	0.00	37.70	102
JAN	4	Office Supplies, bulbs, envelopes	624	7.25	0.00	103
JAN	4	Accts Payable - VISA, Target	202	0.00	7.25	103
JAN	5	Postage, Express Mail	625	9.35	0.00	104
JAN	5	Ck411, US Postal Service	102	0.00	9.35	104
JAN	10	Publications, 3 mags, tax back	615	29.55	0.00	105
JAN	10	Accts Payable - VISA, B. Dalton	202	0.00	29.55	105
JAN	17	Accts Pay - VISA	202	36.80	0.00	106
JAN	17	Ck412, VISA	102	0.00	36.80	106
FEB	1	Deposit, Marvelous Books	102	1000.00	0.00	107
FEB	1	Income, book advance, Marvelous	401	0.00	1000.00	107
FEB	1	Office Supplies	624	35.00	0.00	108
FEB	1	Accts Pay - VISA, Target	202	0.00	35.00	108
FEB	2	Office Supplies, ribbons, disks	624	37.50	0.00	109
FEB	2	Ck413, Computer Dynamics	102	0.00	37.50	109

Make any corrections you need to make with dBASE's EDIT command. When you're finished, type LIST and DISPLAY ALL. (At "Waiting," hit any key.) Note the differences between the commands.

Putting it all to work

To see your debit and credit totals, type SUM DEBIT, then SUM CREDIT. The results should, of course, match. If they don't, you can DISPLAY ALL again, check for entry errors and use EDIT to correct them.

SUM DEBIT — CREDIT shows the bottom line of a trial balance. This command subtracts total credits from total debits. If the totals matched above, you should get 0.00 for an answer.

To prepare the database for the general ledger, type INDEX ON FOLIO TO B:GL. This command creates an index file, B:GL.NDX. Again, dBASE adds a suffix, .NDX, for you.

Type LIST again and see what's happened. The entries have been reorganized in the ascending order of the folio numbers. Be especially careful to notice, however, that the original record numbers have been preserved. They now appear in jumbled order precisely because the original database has been preserved.

Your original database is still intact. What dBASE has done is make a list of pointers so that your records can be accessed more easily. The index is quite similar to the card catalog in a library. The card catalog—in alphabetical order—directs you to books that have been shelved in numerical order.

When records are added to a database in random order, it's usually best to USE both the database and the index at the same time. The proper syntax is USE B:GJ INDEX B:GL. Then, when a record is added, the index is updated at the same time.

But I USE *just* B:GJ when I'm appending records, because at that time I'm interested only in the journal. The index can be recreated later, when I'm interested in the ledger. Go back to the journal. Type USE B:GJ.

Moving around

How do you move around in the journal? dBASE lets you use GOTO and the record number. Or you can use just GO and the record number. Or you can just type the record number. The last is easiest. There is also GO TOP and GO BOTTOM. Those put you at the first and last records respectively. As you make each move, DISPLAY the record so you can see where you are.

How do you know which record you want? Try one of these commands:

• **LIST FOR MONTH='JAN'**. That gives you all your January entries. You can see the record numbers alongside the entries.

• **LIST FOR FOLIO='102'**. That's your checkbook. (If you SUM DEBIT — CREDIT FOR FOLIO='102' you can see your current checkbook balance.)

• **LIST FOR 'Ck'\$ACCOUNT** shows all the checks you've written. The logical operators—.AND., .OR., and .NOT.—help you display selected areas of the database. DISPLAY ALL FOR FOLIO='102'.OR.FOLIO='202', for instance, lets you zero in on your areas of interest.

The general ledger

All of the work we've done so far has been to save you time—in posting transactions to the general ledger and in adding them up after they get there. The form shown below will do the work.

```
USE B:GJ
INDEX ON FOLIO TO B:GL
REPORT FORM B:GLFULL
```

We're going to get the general ledger out of your journal. If you have any problems with the form, use the ESC

key and **DELETE FILE B:GLFULL.FRM**. Then start
(continued on page 75)



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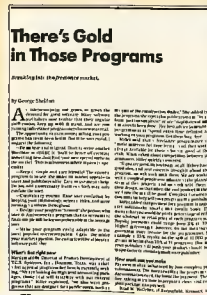
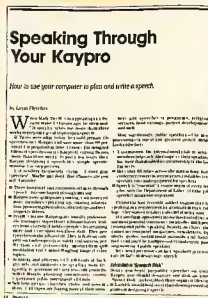
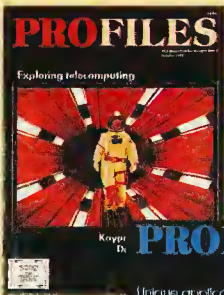
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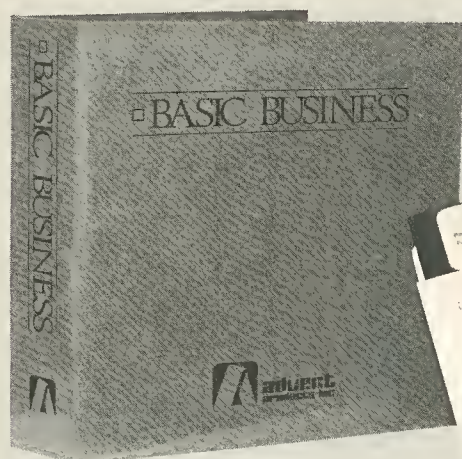
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Bookkeeping with Perfect Calc

Can this marriage be saved?

by Rose M. Green

I'm frugal. I'm stubborn. And I'm romantic. Without this combination I could never have learned Perfect Software's Holy Trinity—Perfect Writer, Calc and Filer. But they came free with my Kaypro II, and I don't look gift horses in the mouth.

It was not love at first sight. Writer, Calc and Filer were actually blind dates. The dealer, in his eagerness to sell me a Kaypro, never offered to show me what they looked like. I, in my eagerness to take a Kaypro home, never asked. He merely suggested I start with Perfect Writer and then tackle the other two.

Which I did. After weeks of practice and cursing the manual for its sins, I finally memorized the commands I needed most. My real goal was to learn Perfect Calc. I had been a full-charge bookkeeper for years and was curious about the computer. Would Perfect Calc do the job for me?

I was disappointed as soon as I read the Perfect Calc manual. It was not what I expected. For example, I hoped it would show a line-by-line cash journal itemizing taxable and non-taxable expenses. I had the romantic illusion I could get neat little journals coming together in a neatly totalled general ledger. No such luck. The Perfect Calc tutorials were based on a useless household budget analysis. I don't have a budget and I don't know anyone who does.

The romantic part of me, always searching for perfection, told me Perfect Calc was not so perfect after all. The frugal part advised me to settle. Calc was free, wasn't it? Why spend money on another Calc that might be just as bad or even worse? The stubborn me backed up the frugal me. I remembered my father standing over me as I struggled with the piano. "Practice, practice," he'd say, "don't give up." I decided that Calc and I would stay together . . . for better or for worse.

The honeymoon begins

Bells began to ring after that. Calc enchanted me with the lovely things he did with lines, columns, decimal points, justification, repeats, calculation and formulas.

The honeymoon was on. We stayed up till the wee hours getting to know each other. With each discovery, my heart pitter-pattered. I was so absorbed in my new love, I forgot to eat. By the time I was halfway through the manual, I realized that Calc was a very powerful program. (Even now, the most anti-Perfect Software pundits agree on that!)

For our first project—our first-born, so to speak—I chose to computerize a set of books I was still doing manually. My client was a fairly active investor. His records were ideal to test the kind of parents Calc and I would make. Using the same chart of accounts as before, I set up the client's opening balance sheet.

FIGURE 1: OPENING CHART OF ACCOUNTS
BALANCE SHEET

		Opening 01-01-85
ASSETS		
101	Checking Acct	563.71
102	Savings Acct	784.69
103	Money Market	19548.63
104	Stocks & Bonds	75633.42
105	Real estate	90345.00
		<hr/> 186875.45
LIABILITIES		
201	Estimated taxes	- 12000.00
202	Mortgage payable	- 68431.59
		<hr/> - 80431.59
NET WORTH		
301	Net Worth	- 106443.86
INCOME: 400 series		
TAX-DEDUCTIBLE EXPENSES: 500 series		
PERSONAL EXPENSES: 600 series		

That done, my next task was creating a cash journal. I designed a spreadsheet using separate columns for each account. It seemed like such luxury to have 52 columns at my disposal. But I soon found three things that made them more of a liability than an asset (no pun intended): 1) switching from one column to

another was awkward despite the LOOKUP and GOTO commands; 2) I wasted a lot of K-space; and 3) the extra-wide Scotch-taped printout was a nuisance. I hated to admit there were chinks in my beloved Calc's armor. This marriage, like most, was not made in heaven. It required work.

The honeymoon ends

I went to work. I condensed the information so all the columns appeared on the screen at the same time. No more shifting back and forth.

FIGURE 2: CASH JOURNAL, CHECKING ACCT #101: JAN 1985

Ch # or Date of Deposit	Description	+ or - Acct #101	100's - 400's Acct #	Amount	500's - 600's Acct #	Amount
1542	Rent	-500.00				
Jan 01	Consulting fee	350.00	401.00	-350.00	501	500.00
1543	Diners Club	-231.56				
1544	Mtge payment	-394.52	202.00	305.00	503	231.56
Jan 05	From Money Mkt	500.00	103.00	-500.00	502	89.52
1545	Dept Store	-128.74			601	128.74
1546	Supermarket	-30.35			601	30.35
Jan 10	Consulting fee	125.00	401.00	-235.00		
		-310.17		-670.00		980.17

Figure 2 is a small sample of my cash journal. Actually, it included my client's other transactions—his money market, brokerage, and savings account activity. All in all, it ran about 100 lines. How was I going to sort out each accounting code to get monthly totals and arrange them numerically for posting to the general ledger? I discovered that, unlike dBASE II or most accounting programs, Calc could not do a quick sort. Another chink in his shining armor.

I thought I would find the answer in "Associated Files," the last chapter in the manual. Despite constant practice I couldn't get the hang of them. Surely the nameless author had fallen asleep when he reached the end of his work. I knew this was true when I read his own statement in Chapter XIII, page 8. "Although we will attempt to suggest some applications, we must admit that the concept is so new and powerful that we ourselves have only scratched the surface of its potential capabilities." The application he "attempted to suggest" was a complete non sequitur.

Well, Calc, where do we go from here? Can this marriage be saved? I bit the bullet. I tried associating my cash journal with my cash journal analysis, splitting the screen and switching the figures from one to the other. To keep my codes in numeric sequence, I opened new lines as needed. It was tedious work, and when completed it was out of balance! In addition, my eyes were tearing and my neck ached. Maybe I wasn't using associated files properly (who could?). I went back to the lessons disk. It was no better than the manual. The PeopleTalk manual didn't help either. I bade farewell to associated files and meditated.

A successful reconciliation

The solution came to me at 2:30 in the morning. Since associated files required me to type and copy every cell anyway, wouldn't it be easier to copy from a printout placed on a copy holder? It was worth a try. The next day I bought myself a good copy holder (\$27.95!) with a well-designed line guide.

I then did a line-by-line analysis, working horizontally and opening new lines as each insertion warranted it. My codes were in perfect numeric sequence. If, at the end, my figures all added up to -0- I was on

target. Otherwise I was in trouble. It took a while to learn the pitfalls, but I did (see Figure 3, below).

Posting these figures to my chart of accounts/trial balance was now a snap. I headed up a column called January cash, plugged in the totals and added them across for my year-to-date column. To check my results, I reconciled my bank statements via the cash journal, and when the year-to-date balances appeared, they agreed to the penny. Eureka, it worked! (See Figure 4 on next page.)

When the next month rolled around, I set up a new cash journal by PIPing the first one and deleting all the data except my column headings. No need to set them

FIGURE 3: CASH JOURNAL ANALYSIS, JAN. 1985

Acct #	TOTALS	DETAILS
101	-310.17	-310.17
103	-500.00	-500.00
202	305.00	305.00
401	-475.00	-350.00 - 125.00
501	500.00	500.00
502	89.52	89.52
503	231.56	231.56
601	159.09	128.74 30.35

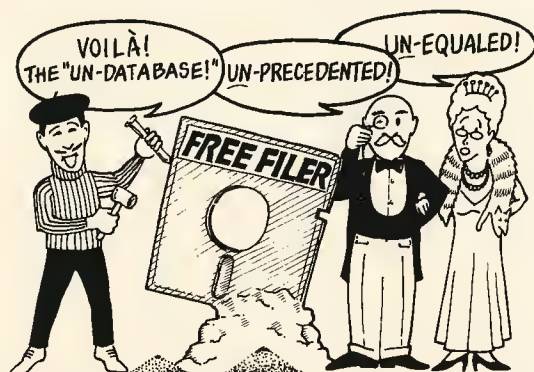
up them again. Later on, NEWSWEEP came along to do the job even better.

Once I had my February cash journal and its analysis, I added a new column to my January 31 trial balance, plugged in the figures, and got my new year-to-date totals. My client was tickled when he saw his computerized reports.

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FIGURE 4: TRIAL BALANCE, JANUARY 31, 1985

	Opening 01-01-85	Jan Cash	YTD 01-31-85
ASSETS			
101	563.71	-310.17	253.54
102	784.69		784.69
103	19548.63	-500.00	19048.63
104	75633.42		75633.42
105	90345.00		90345.00
	<u>186875.45</u>	<u>-810.17</u>	<u>186065.28</u>
LIABILITIES			
201	-12000.00		-12000.00
202	-68431.59	305.00	-68126.59
	<u>-80431.59</u>	<u>305.00</u>	<u>-80126.59</u>
NET WORTH			
301	-106443.86		-106443.86
	<u>-106443.86</u>		<u>-106443.86</u>
INCOME			
401 Consulting fees		-475.00	-475.00
402 Interest earned		0	0
403 Dividends earned		0	0
404 Capital gains		0	0
		<u>-475.00</u>	<u>-475.00</u>
TAX-DEDUCTIBLE EXPENSES			
501 Office rent		500.00	500.00
502 Interest expense		89.52	89.52
503 Travel & ent.		231.56	231.56
		<u>821.08</u>	<u>821.08</u>
PERSONAL EXPENSES			
601 Department store		159.09	159.09
		<u>159.09</u>	<u>159.09</u>
SUMMARY			
Assets			186065.28
Liabilities			-80126.59
Net worth			-106443.86
			<u>-505.17</u>
Loss			
Income			-475.00
Tax-deductible expenses			821.08
Personal expenses			159.09
			<u>505.17</u>
Loss			

Building on a solid foundation

I was now ready for more complicated work. Before looking for commercial clients, I volunteered my service to a charity group. They jumped at the offer. Calc and I quickly solved the different problems they presented. And then came our first paying client—the apartment complex where we live. Here we had to include a payroll journal, accrued taxes, tenant register and accounts receivable. Everything fell into place. Darling Calc came through, this time toting Perfect Filer with him.

One afternoon, while watching the apartment manager looking for a particular report in our printouts, another brainstorm hit me. Why not color-code them? From that day on, I stopped using regular computer

(continued on page 74)

GIFT IDEAS



Looking for a special gift for a fellow KUG member who gave up a few evenings to help you patch your WordStar, or something to help your spouse solve a business problem? On the following pages, PROFILES presents dozens of gift ideas, from software to accessories, in time for you to place your orders for the holidays—or start dropping hints yourself. Keep in mind that many vendors offer demo disks or kits at greatly reduced prices so you can try before you buy—call the vendors for information. Also, the prices listed here do not include costs for shipping and handling, so call to get exact totals before you send payment.

SOFTWARE

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TSK, Inc./701-838-3546
P.O. Box 2166, Minot, SD 58702

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(tax preparation)
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635 Main St., Montrose, CO 81402

CPI Business Systems, \$320, CP/M; \$400, MS-DOS

(4-module integrated accounting system)
Computer Professionals, Inc./803-268-3911
15 Regency Hills Dr., Greenville, SC 29607

Rags to Riches, \$124.95 each and up

(4-module integrated accounting system)
Chang Labs/800-831-8080
5300 Stevens Creek Blvd., San Jose, CA 95129



Accounting for Micros, \$395

(4-module integrated accounting system)
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214 Mockingbird Rd., Nashville, TN 37205

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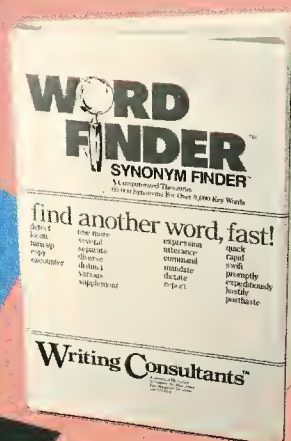
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P.O. Box 85152, San Diego, CA 92138

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My computer's name and model is: _____

The disk size I use is: ☐ 3 1/2" ☐ 5 1/4" ☐ 8"

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NOTE: Turbo Editor Toolbox and Turbo GameWorks are available for the IBM PC and true-compatibles using Turbo Pascal 3.0 ONLY.

SPECIALS OF THE MONTH

In support of this month's editorial theme, Advent is offering the following specials:

Basic Office: Time & Billing program designed to automate the special needs of the professional office. Provides personal calendars, client timekeeping, account billing, receivables tracking, Trust & Deposits accounting, and flexible management reports. Three versions are available, each tailored to the specific requirements of Lawyers, Accountants, Professionals.
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External Monitor Adaptor: The External Monitor Adaptor (EMA) allows your Kaypro to drive an external video monitor. Original characters and video display remain unchanged. The Kaypro monitor remains operative. Simple plug-in installation.

EMA Kaypro II or 4	\$59.95
Taxan 115 Monitor (12" Green)	\$149.95
Taxan 116 Monitor (12" Amber)	\$159.95
EMA Kaypro 2'84, 2X, 4'84, 10'84	\$74.95
EMA Kaypro 10'83	\$82.95
12" Green Monitor*	\$159.95
12" Amber Monitor*	\$169.95

* Specially modified monitors must be used with all Kaypros except the original model II and 4.

5 MHz TurboBoard: Our tried and true 5 MHz speed enhancement for the earlier Kaypro models.
5MHz TurboBoard for Kaypro II & 4 \$74.95

Clock/Calendar: Real time clock/calendar add-in for all Kaypro computers without built-in clocks. Works with PlusPerfect DateStamper or your own application software. Source code drivers provided for use with MBASIC, SBASIC, dBASE II, Turbo Pascal, C, and assembly languages. The Clock/Calendar also functions as a host adapter to our RAM Disk and hard disk add-on products. Add these other products later and save money.

Clock/Calendar Interface \$99.95

TurboROM: A ROM enhancement for all 8-bit Kaypro computers. Faster disk read/write, keyboard type-ahead, faster video display for newer Kaypros, and larger TPA (63K) for the Kaypro 10. The TurboROM supports up to four 48TPI (392K) or quad density 96TPI (790K) floppies all with 255 directory entries. Additional drives require our Personality/Decoder Module. Built-in drivers support up to 2Mb of RAM Disk and up to 112Mb of Hard Disk. Many more features. Specify Kaypro model when ordering.

TurboROM \$79.95

Electronic RAM Disk: High speed internal RAM Disk for all Kaypro models. Expandable to 1Mb in 256K increments, then add the 1Mb expansion board for a full 2MB RAM Disk. This RAM Disk delivers more performance than the competition. Add hard disks or Real Time Clock later and save.

Speed Comparison - At 4 MHz, times measured in seconds.

Function	Floppy	SWP	MicroSphere	Advent
Read 64K file	8.89	1.82	2.21	.80
Write 64K file	55.65	2.96	3.25	1.52

256K RAM Disk	\$399.95
512K RAM Disk	\$504.95 .. \$459.95
768K RAM Disk	\$599.95 .. \$519.95
1Mb RAM Disk	\$689.95 .. \$579.95
1Mb Expansion Board (256K installed)	\$359.95
256K Expansion Memory kit	\$115.00 .. \$60.00

Hard Disk Add-in (Kaypro 10): Add an additional 10 or 20Mb drive inside your Kaypro 10, or install a single 32 to 56Mb drive. Package includes hard disk, all cables and mounting hardware. TurboROM included. Can be expanded to include RAM Disk and Real Time Clock.

10 to 56Mb Hard Disk Kit Prices start at \$689.95

Hard Disk Add-in: Add an internal 10 to 56Mb hard disk to any floppy disk based Kaypro computer. Includes hard disk, disk controller, all cables and mounting hardware. TurboROM included.

10Mb System	\$1075.95
20Mb System	\$1506.95
32Mb System	\$1639.95

External Hard Disk Add-on: Add an external enclosure with 10 to 112Mb of hard disk and up to 2Mb of RAM disk to your CP/M Kaypro. Mix and match to meet your requirements. Can be expanded to include RAM disk and Real Time Clock.
External Hard Disk Add-on Prices start at \$1523.

SOFTWARE UTILITIES

Autodiff: File difference detector. This program finds insertions, deletions, and changes between any two files. Autodiff can mark the file, display, or print differences, and more!
Autodiff (CP/M) \$29.

CP/M DateStamper: Automatically stamp your files with the date it is created, read, or modified. Works without a Real Time Clock, with the clock in the new Kaypros or with the Advent Clock/Calendar. Utilities are included to allow copying, erasing, or renaming files based on time and date. A time logging utility is included to record computer usage for business/tax purposes.
DateStamper \$49

Format Conversion Software: Your Kaypro can read and write many popular formats including MS-DOS, PC-DOS & TRSDOS.
Uniform: up to 80 formats (CP/M & MS-DOS) \$69
Media Master: up to 75 formats (CP/M & MS-DOS) \$39

Media Master Plus: Read & write up to 75 formats. Includes ZP/EM program which allows CP/M programs to run on your MS-DOS computer.
An \$80 value.
Media Master Plus \$59

Sidekick: One of the most popular programs ever written. Use Sidekick as a calculator, notepad, appointment calendar, auto dialer, ASCII conversion table, and much more. On-line help if you forget any of Sidekick's many functions.
Sidekick (MS-DOS) \$54

SmartKey II: New Release! Same great time saver as the original, allows completion of definitions you set up with your word-processor! Makes every software program you use easier. Can reduce keystrokes by more than 50% by redefining any key on your keyboard to be any combination of characters or commands that you desire.
SmartKey II \$49

Order SmartKey & SmartPrint together and save \$20, just \$59.95

SmartPrint: A powerful add-on to SmartKey, SmartPrint is a versatile writing program designed to give you full access to your printer's features such as wide, bold, condensed, underlined, subscript, superscript, and more. Works great with programs like WordStar and others.
SmartPrint \$29

XTREE: Directory maintenance program that graphically displays sub-directories and filename-paths. Complete control of your directory including delete, rename, view, list or show. A must for any IBM or clone.
XTREE (MS-DOS) \$49

ZP/EM: Run almost any CP/M program on your IBM or clone. Can be used with Media Master or Uniform to allow programs on CP/M disk formats to run directly on your MS-DOS computer.
ZP/EM (MS-DOS) \$39

PROGRAMMER'S CORNER

C/80 Ver 3.1: Full featured C compiler and runtime library. One of the fastest on the market. Mathpak provides true 32 bit floating point and signed integer data types.
C/80 Ver. 3.1 (CP/M) \$49
C/80 MathPak (CP/M) \$29

Toolworks C: This compiler is a complete subset of C. The two-pass compiler produces relocatable object files (.obj) which are compatible with the MS-DOS 1.0 program. Mathpak provides true 32 bit floating point and signed integer data types.
Toolworks C Compiler (MS-DOS) \$49
Toolworks C MathPak (MS-DOS) \$29

Turbo Pascal: Borland version 3.0. The best Pascal compiler on the market.
Turbo Pascal \$69

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Turbo Toolbox \$59

Turbo Tutor: Step-by-step instructions on how to use Turbo Pascal.
Turbo Tutor \$39

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Throats	\$39.95
Deadline	\$49.95
Chanter	\$39.95
Hiker	\$39.95
Fidel	\$44.95
Netfall	\$39.95
Eastalker	\$39.95
Orcerer	\$44.95
Adventure : Explore the dangerous Colossal Cave for treasures. Endure mystical cells and overcome adversaries. The only original uncut version.	
Adventure (CP/M & MS-DOS)	\$19.95
Import : You are an air traffic controller and your radar screen is filled with aircraft under your guidance. See how long you can last without cracking. Tougher than the real thing!	
Import (CP/M)	\$19.95
Eliza : The pioneering artificial Intelligence program, Eliza is a psychiatrist that carries on a conversation in plain English about anything you wish. Great to play alone or in a group.	
Eliza (CP/M & MS-DOS)	\$24.95
Chess : This award-winning world class chess program features nine skill levels with over 850 opening moves. Prints moves and saves game in progress.	
Chess (CP/M & MS-DOS)	\$34.95
Word Wiggle : Scrambled letter game for building vocabulary skills of young and old. Seven skill levels containing 40,000 word dictionary. Fast paced, fun, and educational.	
Word Wiggle (CP/M & MS-DOS)	\$29.95

COOK'S CORNER

MyDiet : Create your own personal nutritional profile that will help you derive the maximum benefit out of the foods you eat. MyDiet is designed for the professional nutritionist, but is easy to use. Compares to programs costing hundreds of dollars!	
MyDiet (MS-DOS)	\$49.95
Computer Chef - #1 in the Series : The computerized cookbook for food lovers. Contains a database of almost 100 recipes with space to add your own. Auto scale ingredient quantities, find recipes by key words or type of ingredients you want to use, then display or print your selection.	
Computer Chef (CP/M & MS-DOS)	\$29.95
What's for Dinner - #2 in the Series : 200 main dish and dessert recipes. Requires Computer Chef program (not included).	
What's for Dinner (CP/M & MS-DOS)	\$19.95
The Best of Wok Talk - #3 in the Series : Exotic Chinese cooking. Over 100 recipes from China. Includes Computer Chef program.	
The Best of Wok Talk (CP/M & MS-DOS)	\$29.95

HOME & BUSINESS CENTER

Graphics 2.4 : High performance business graphics package which produces "best possible" display and prints high resolution graphics on your printer. Produce professional pie, bar and line charts all with shading for added appeal.	
Graphics 2.4 (CP/M)	\$125.00
Embrandt Ver. 3.0 : The most popular graphics program for the Kaypro computer. Supports most dot matrix printers.	
Embrandt (CP/M)	\$79.95
Worddrive : Enhance WordStar by including high resolution graphics, on line 100,000 word spelling checker, thesaurus, and a calculator to do common math, all while in the edit mode of WordStar.	
Worddrive (CP/M)	\$199.95

WRITER'S WORKSHOP

Intonation & Style : Improves your writing by catching unbalanced quotes, parentheses and brackets, improper abbreviations, capitalization, sentence structure, much more. It's like having your own copy editor!	
Intonation & Style (CP/M & MS-DOS)	\$125.00
Thesaurus : This powerful 90,000 word Thesaurus allows you to select the best word for the application. Works inside WordStar for greater ease of use. Instantly arches its dictionary, then displays synonyms, and automatically deletes the "wrong" word and replaces it with the "right" word. Requires 380K disk storage.	
Word Finder (CP/M & MS-DOS)	\$79.95
Wordpatch : Print files with tiny, compressed, wide, or wide compressed type faces, sizes of italic, real superscripts and controls to learn. Supports most popular dot matrix printers. A must for WordStar users!	
Wordpatch (CP/M & MS-DOS)	\$49.95
Word Plus : The ultimate spelling checker. Not only finds misspelled words but shows you correct spelling options, shows the word in context, allows building dictionaries of special words you use and much more.	
Word Plus (MS-DOS)	\$150.00

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Funzeez : Build fundamental arithmetic and language skills. Provides four different programs to choose from: flashing numbers, arithmetic drills, unscrambling words and word guessing. Grades 2-5.	
Funzeez (CP/M & MS-DOS)	\$34.95
Math Tutors : Improve your skills in basic thru advanced math. Learning thru multiple-choice problems with help and hint functions provided. Grades 8-College.	
Algebra	\$34.95
Calculus	\$34.95
Geometry	\$34.95
Trigonometry	\$34.95
SAT Score Builder : This program is designed to help students prepare for the Scholastic Aptitude Test required by most colleges and universities. Includes Help function.	
SAT Score Builder	\$34.95
Reading Professor : Now you can use your computer to boost your reading speed while increasing comprehension and retention! Self paced lessons show immediate improvement and feedback. Includes several different practice exercises. Developed by skilled educators, this program tracks user's progress and monitors reading rates up to 2500 wpm. Additional reading libraries available.	
Reading Professor (CP/M & MS-DOS)	\$59.95
Additional Libraries (each)	\$15.95
Typing Tutor : Comprehensive program for use in teaching beginning skills or improving speed and accuracy. Not a simple minded drill this program takes you proper finger placement, basic thru advanced drills using "real world" text examples for both the main keyboard and the numeric keypad.	
Keyboard - The computer Typing Tutorial (CP/M)	\$39.95

ACCESSORIES

Printer & Modem Cables: These high quality cables are designed to work between your particular printer or modem and your Kaypro. Specify make and model of printer and Kaypro model when ordering.

RS-232 Serial:	6ft - \$17.95	12ft - \$22.95
Kaypro 16 RS-232 Serial:	6ft - \$19.95	12ft - \$24.95
Centronics Parallel:	6ft - \$24.95	10ft - \$28.95
Kaypro 16 Parallel:	6ft - \$27.95	10ft - \$31.95
Modem Cable:	2ft - \$19.95	4ft - \$22.95

12ft Keyboard Cable: Replace the original 4ft cable. Designed to meet the exacting requirements of your Kaypro.

12ft Keyboard Cable \$9.95

Anti-Glare Screen: Increases contrast and reduces glare. Attaches directly to the CRT and requires no disassembly. Please specify Smoke or Green when ordering.

Anti-Glare Screen \$19.95

Finger Print "Letter Writer": Add near-letter-quality print, IBM and Apple Graphics printer emulation, plus 16 other print functions to your Epson FX series printer! Replacement ROMs, easy installation does not void printer warranty.

Finger Print "LetterWriter" \$79.95

Keyboard Template: Fits over your keyboard to provide a complete WordStar, Mailmerge and SpellStar reference guide at your finger tips. CP/M computers only.

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OPENING CHART OF ACCOUNTS BALANCE SHEET

TRIAL BALANCE, JANUARY 31, 1985

Opening 01-01-85	Jan Cash	Y T D 01-31-85
563.71	-310.17	253.54
784.69		784.69
19548.63	-500.00	19048.63
75633.42		75633.42
90345.00		90345.00
186875.45		186875.45
-12000.00		-12000.00
-68431.59		-68431.59
-80431.59		-80431.59
-106443.86		-106443.86
-106443.86		-106443.86

Consulting fees	-475.00	-475.00
Interest earned	0	0
Dividends earned	0	0
Capital gains	0	0
	-475.00	-475.00

ABLE EXPENSES	
Office rent	500.00
Interest expense	89.52
Travel & ent.	231.56
	821.08

EXPENSES	
Department store	159.09
	159.09
	0

SUMMARY	
Assets	186065.28
Liabilities	-80126.59
Net worth	-106443.86
	-505.17
Loss	-505.17
Income	-475.00

TRIAL BALANCE, JANUARY 31, 1985

Opening 01-01-85	Jan Cash	01-31-85
563.71	-310.17	253.54
784.69		784.69
19548.63	-500.00	19048.63
75633.42		75633.42
90345.00		90345.00
186875.45	-810.17	186065.28
-12000.00		-12000.00
-68431.59	305.00	-68126.59
-80431.59	305.00	-80126.59
-106443.86		-106443.86
-106443.86		-106443.86

INCOME	
401 Consulting fees	-475.00
402 Interest earned	0
403 Dividends earned	0
404 Capital gains	0
	-475.00

TAX-DEDUCTIBLE EXPENSES	
501 Office rent	500.00
502 Interest expense	89.52
503 Travel & entertainment	231.56
	821.08

PERSONAL EXPENSES	
601 Department store	159.09
	159.09
	0

SUMMARY	
Assets	186065.28
Liabilities	-80126.59
Net worth	-106443.86
	-505.17
Loss	-505.17
Income	-475.00
Tax-deductible expenses	821.08

Automating Your Books

Tips on picking accounting packs

by Casey Cook and Rick Mattingly

The failure to keep timely, accurate books can be as fatal to a business as the failure to make sales. This is particularly true for the small business because fewer resources mean less margin for error. Though choosing the right bookkeeping software is difficult, the payoffs for automating are considerable.

In order to resolve a problem you need to identify it, and that is one of the primary functions of automated bookkeeping: timely identification of potential problems. Wouldn't it be great to know in a few minutes what percentage of your budget has gone to advertising so far this month, how that compares to last month, and how much it has affected sales?

The more you know about your particular needs, the better will be your choice of accounting software. Be reasonable in your expectations. Software can't teach you how to be an accountant. Once you've purchased a package, expect some chaos and, initially, more work. If you plan on automating a fairly complex business, for example, you can expect to spend at least three months running the manual system parallel to the computerized one.

Here we review 11 packages that, in one form or another, will help keep your books. Each program has its own personality, with special quirks and features.

Top-level packages

These highly sophisticated packages are for managers who require cash flow management and full balance sheet capabilities. Software at this level should produce timely reports that show how fast equipment is depreciating, how slowly loans are being amortized, and more—all while adhering to sound accounting procedures.

Such procedures include the ability to leave an audit trail. Thus, if you make a wrong entry, the program should have a reversing entry rather than allow unlimited editing or deletion. Leaving an audit trail may never be important unless the IRS claims you made \$100,000 and you figure you lost that much.

If there is a danger that payroll information may fall into the wrong hands, you'll also need file security. Capacity is another must. If the software has less than five digits to define account numbers it probably won't suit you regardless of cost.

Once you're satisfied that the fundamentals—program integrity, security, and capacity—are covered, you can look at bells and whistles. The better programs include features like budgeting on a monthly or quarterly basis and historical information that will compare 1984 to 1985 and calculate variances. In addition, a top-notch system should be able to add fully integrated modules as your business requires them.

Like accountants, these programs have substantial differences. You will want to know how good the program is at protecting against operator error or a hardware crash, whether it's too slow, whether it provides error checking, whether user support services are offered, and at what cost.

Second-tier programs

This second class of programs is best for people who know little about bookkeeping other than that they spend too much time at it. These people keep the books in order to track the cash flow and later explain to their accountants what they did. The accountants then take that information to generate the necessary balance sheet information to satisfy auditors and the IRS. These programs are a cut above home finance programs because they have greater capacity, more useful features and more comprehensive report-generating capacity.

If you choose a package at this level, you've decided not to go for double-entry, so go for capacity, convenience and features. Capacity can be determined by the number of accounts the system will handle—one hundred is typical.

Convenience and features are closely related. Look for extras such as good documentation, defaults for fast data entry, automatic saves and a speedy program

structure. Convenience is not simply ease of learning. You may spend three days learning a program that you'll outgrow in six months. On the other hand, it may take a month to learn a program that will work reasonably well for years. Expect some tradeoffs; only rarely does one program have it all.

Also consider how committed the company is to its product. If the manual has not been revised since 1978, forget it. If the manufacturer offers no hotline, or just lightweight support, look elsewhere. Program updates are a sign that the system is vital. Check the date and version number of the most recent update, and don't forget to find out how much new updates will cost (if anything) and whether or not they are distributed automatically.

Personal packages

While these programs are designed primarily for home bookkeeping, they will serve for small, cash-oriented businesses such as rental properties or a homeowners' association. They're most appropriate for the person who keeps a number of checkbooks and wants to spend less time balancing them without sacrificing accuracy. A good system will emphasize ease of learning and convenience. At this level, elaborate security procedures and audit trails are really not necessary and, in fact, should be considered a hindrance.

CPI was one of the best programs we reviewed. Its one deficiency is speed.

The speed of these programs varies widely—partly because of size, but also because some are written in BASIC, some in compiled BASIC, and some in a very fast low-level programming language. Take note of the speed; you spend enough hours managing the books, let alone managing the computer.

Other time-saving conveniences can add up. A good program will increment check numbers and allow you to use a default to enter the date. Menus can be handy at certain levels, but for frequently used commands we prefer control sequences and mnemonics. Again, there is a tradeoff; menus are easy to learn and use, but they become cumbersome after a time. A command-driven structure takes longer to learn, but it's very speedy once you get the hang of it. Some combination of menus and commands is generally the optimum.

Documentation is less critical at this level of accounting software because the program should be so intuitive that the manuals are used primarily for installation procedures, for back-up information in case of trouble, and for quick reference.

CPI (Computer Professionals Inc.)

This "top level" package was one of the best we reviewed; it compared favorably to packages costing hundreds of dollars more. If there is one overriding deficiency, it's speed. CPI was installed and reviewed on a Kaypro 10, and even with the added speed of a hard disk, some waits seemed excessively long.

The features offered by the CPI system make it extremely powerful and flexible. The program will accommodate everything from a small, owner-operated business right up through a large corporation with several profit centers. It allows comparisons of budget figures or previous period results and computes variances from a budget. Its extensive use of defaults saves considerable time in data entry. And it will print a formal balance sheet and income statements in several different formats. One minor weakness: it does allow you to make one-sided entries—a freedom we'd prefer it did not allow.

The documentation is excellent. Most of the questions we used to evaluate the programs were answered by the manual. The inexpensive user support program indicates a higher-than-average interest in user satisfaction. If results are more important than speed, CPI should definitely be among the programs you consider.

Currently, the general ledger will interface to CPI's accounts receivable (AR), accounts payable (AP) and payroll modules.

Desktop Accountant

This very powerful full-featured package is similar in many ways to CPI. Desktop Accountant's strongest features are flexibility, capacity and user-friendliness. The numbering system enables you to use a variety of categories and subcategories in defining your accounts. You can enter up to 400 accounts, and even more with increased RAM capacity. It has all the little features for fast data entry and error checking.

It does tend to stray from sound accounting principles, however. It will allow deletion of entries without documentation, and this would enable a user to circumvent the audit trail. In addition, there is no password security, so anyone could get to any file on the system. From the perspective of the owner-user, these deficiencies do not present a problem, and may even be a convenience. However, if someone else will be operating the system, you will have less control. Considering the large capacity of the program, it should be applicable to large businesses, but these problems limit it to smaller businesses.

This has good budgeting and historical comparison features, documentation is excellent, and it has all the modules (AP, AR, payroll) for future growth. If you want a program that is friendly but somewhat less than rigorous, take a hard look at Desktop Accountant.

Accounting for Micros

Accounting for Micros by the James River Group is

another solid, full-featured package that deserves to be placed in the top category. It has the capacity (approximately 400 accounts on a 180K disk), but it falls down somewhat in the area of program integrity. For example, you can't arbitrarily delete or correct journal entries—so far so good; but when it comes to creating reports from the general ledger, you can change anything you want. One person's bug can be another's feature, but we considered this a definite bug because the reports can suggest something that the system doesn't support.

Accounting for Micros is a solid, full-featured package, but the documentation bothered us.

Although the documentation was careful and accessible, it lacked a good troubleshooting guide or intelligible listing of the programs and what they do. According to the company representative, the documentation is currently being overhauled and improved. The support was adequate, but not as good as CPI's.

This program is relatively fast, however. And it has all the budgeting and historical comparison features you'd want. Moreover, it is good at error trapping, and it has defaults for fast data entry. Finally, it offers five modules, not just the mandatory four. In addition to GL, AR, AP and Payroll, there's inventory control and a catch-all program called "Tman" that acts as a mailing list and filing system.

Rags to Riches

For those who recall Profit Plan (also from Chang Labs) and how conceptually different it was from every other spreadsheet program, it will come as no surprise that Rags to Riches (RTR) offers a completely unique way of "doing the books."

For example, RTR offers overlays (read "charts of accounts") for two dozen different businesses. The accounts are assigned letters (e.g., "u" would designate the expense account "Utilities"), which can be modified later if necessary. While this system speeds entry, it limits you to 96 accounts.

Screen formatting is also quite different from that of most accounting packages. Transactions are input in the upper half of the screen, while the lower half displays a summary income statement, which immediately reflects the result of the current transaction. A note below the transaction screen indicates the effect of that particular entry (+expenses, -assets, etc.).

Chang Labs' Rags to Riches is a fresh approach to small-business accounting; it's designed for the business person rather than the CPA. Documentation, complete with tutorials and examples, is excellent. The

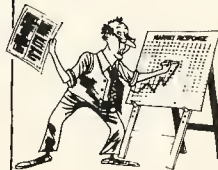
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
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overlays minimize the time spent setting up a chart of accounts, and the tutorial does a good job of familiarizing the user with the program. For the owner without accounting experience who needs double-entry features, this is an excellent package.

Checks & Balances

This program is promoted as being so easy to use that you don't need the manual. We not only found this to be true, but found the software to be capable of some very powerful financial management, as detailed in the manual—which, incidentally, is very good.

C&B actually works like your checkbook and, in fact, emulates a checkbook on the screen. After you've input the checks and income, the software puts out the expected reports, such as tracking your bills, balancing your checkbook, and preparing a monthly budget.

It then goes further: Because the software makes use of English commands rather than menu choices, complex searches can be made. For example, you can ask for all the checks written for utilities since May 1984 and total them up. The program's Rolodex function is a good filing system that lets you print mailing labels and, best of all, checks. The list of advanced features goes on, but it should be noted that Checks & Balances doesn't print invoices.

This package is not intended to be a full-featured accounting system, so forget double-entry. Because it has a keyboard command structure, rather than menus, the learning process is likely to be slow, but once you get comfortable with those commands, you can fly. The program is written in a low-level (i.e., very fast) programming language that further enhances its speed. We liked this program because it was developed from the user's, not the accountant's, perspective.

Mini-Ledger

Mini-Ledger is about as full-featured as a single-entry system can get. It has reasonable capacity (99 accounts) with six-digit flexibility for defining accounts and various subcategories. You can even define account numbers on the fly without jeopardizing the program integrity. It includes a few stock reports, plus you can design your own. While it will store the prior month's detail and let you reopen the prior month for changes and corrections, don't expect the big-system features such as budgeting and historical comparisons. On the Kaypro II, you can expect to do some disk swapping when you need to print something, and we found that to be cumbersome.

We found this to be an intuitive program with all the fast data-entry features, good error checking and superb documentation. We liked the command structure, which effectively combines menus with control commands, and we liked the program's ability to split a check, say, between principal and interest. The context-sensitive help function was also a nice feature. The company recently released two additional modules, AR and AP, which should take care of invoice and check printing. If you really can't handle a double-entry system, but want many of those features, you should definitely consider Mini-Ledger.

Quick Check Plus

Quick Check Plus is a complete single-entry system that offers checkbook operations, bookkeeping, accounts payable and accounts receivable, all in one easy-to-use program. The software virtually eliminates lengthy waits between operations, and the online help is so complete and easy to use that it makes the well-written manual unnecessary. While some systems that rely on menus for operation can become tedious and restraining, Quick Check Plus offers a consistently well-conceived menu structure for data entry and reporting.

The program will print statements on either plain paper or commercially available forms. Checks may be printed automatically for payables that have been tagged. With the optional Quick Register module, Quick Check Plus becomes a cash register system that records sales, prints invoices and mailing labels, and adjusts inventory as well. An electronic cash drawer is also available as a hardware option. While this package can be used to control sales of both goods and services,

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it is uniquely suited for the small retail operation. This is especially true with the various options. We liked Quick Check Plus for its ease of use, which did not inhibit its power.

Cubbyhole

The impression we got from Cubbyhole is that the programmer had fun writing it. Like Checks & Balances, this program was designed for ease of use first and for accounting second. It has an added layer of account definition, which it refers to as checkbooks, each with the ability to define 26 separate accounts. The accounts can be numbered or coded by letters for an easy-to-remember mnemonic system. It generates numerous reports and has a remarkably flexible budgeting capacity. It also allows you to "flag" bills for payment and subsequently prints the checks.

While the program is extremely friendly making the brief manual practically unnecessary except for installation, the multi-level menu structure becomes cumbersome with familiarity. The tradeoff, however, is that this structure makes it difficult to make a serious mistake. The primary module can be integrated with both an AP and AR system, and the company plans to introduce a fixed asset inventory module in the future.

SBAccount

This single-entry system was originally written for the Osborne I. It is a relatively fast program written in compiled MBASIC, but it's strictly menu driven. However, most of the choices within menus are mnemonic. The program's only real fault is lack of capacity: 20 income accounts and 40 expense accounts.

It does everything that a single-entry program ought to, with a few extras not offered in any of the other programs. It includes password security when initializing data files. It allows you to print checks, and for \$25 more it will even configure your printer for a specific check style. It offers a good variety of report options, which we found to be well formatted and readable. Its journal entry uses a reference number that posts automatically to the general ledger, providing a reasonably effective audit trail. The system offers add-on modules, such as accounts payable or receivable, but you'd be better off upgrading to MBAccount.

This is not a glamorous package by any means, but it does good journeyman work. It may be best suited to a cash-oriented business where the owner is not doing data entry but wants some control over the bookkeeper.

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simple checkbook program. It has the bases covered for convenience, ease of learning, ease of use and reasonable error checking. It can also do an auto save to protect against an operator or hardware failure. This is something none of the full-featured packages offers. In addition, it creates ASCII files that can be passed to a spreadsheet or word processing package for flexible report generation. It has good capacity from the standpoint of transactions, and it has the noteworthy ability to sort your financial information by date, check number and account number. But it is hardly free from undesirable quirks.

It has adequate capacity for accounts, but very limited flexibility for defining those accounts—two digits. Don't misunderstand—it will do the job, but don't try to get too elegant with your chart of accounts. You can't, for example, summarize three or four related accounts in one category for reporting purposes. The documentation is minimal but adequate; it has a table of contents but no index. This program has sterling qualities, but be ready to put up with some limitations.

The Little Accountant That Can

At \$36, this package is the same price as most programs' demo disks. That may be its function: an introduction to tracking your finances via computer. You may not be sure whether you want checkbook software, but for the money it could be worth the experiment. There are limitations.

The most serious problem concerns account numbers. You have no control over which account is assigned what account number. Numbers 1 through 99 are assigned successively as you go. Moreover, it can't handle receipts or expenses over \$10,000.

Documentation consists of six pages with very little useful information. Your best bet is to learn by trial and error. In fairness, the program was easy to learn, even without documentation. It printed statements, including a simple profit-and-loss report, and it had a nice system for accommodating partially deductible tax expenses. This system is best suited for neophytes looking to get their feet wet.

Summary

The above thumbnail sketches on some of the accounting packages offered for CP/M machines should give you a running start on automating your bookkeeping.

When you choose an accountant, it is important to find someone you can understand and who understands you. In the final analysis, you should use the same criteria when choosing your software. □

Evaluations were aided by a panel: Mary Swanson, an accountant with 20 years experience; Mike Perry, a CPA; and Dave Herzfeld, a computer consultant who installs accounting software for small businesses. Casey Cook, a commercial property appraiser, and Rick Mattingly, a computer systems consultant, did the writing.

Product Vendor Summary

Accounting for Micros

James River Group, 125 N. First St., Minneapolis, MN 55401, (612) 339-2521.

\$395 for four module package.

Checks & Balances

CDE Software, 2463 McReady Ave., Los Angeles, CA 90039, (213) 661-2031.

\$74.95

CPI

Computer Professionals Inc., 15 Regency Hills Dr., Greenville, SC 29607, (803) 268-3911.

\$80 per module.

Cubbyhole

TSK Inc., P.O. Box 2166, Minot, ND 58702, (701) 838-3546.

\$79.95

Desktop Accountant

Rocky Mountain Software, 1280-C Newell Ave., Suite 1304, Walnut Creek, CA 94596, (800) 832-2244.

\$395 for four module package.

Financial Filer

Woodsmith Software, Route 3, Box 550A, Nashville, IN 47448, (812) 988-2137.

\$59.95

Mini-Ledger

Paradigm Consultants, 39243 Liberty St., Fremont, CA 94538, (800) 821-8407.

\$150

Rags To Riches

Chang Labs, 5300 Stevens Creek Blvd., San Jose, CA 95129, (800) 972-8800, or (800) 831-8080 in California.

\$124.95 per module.

Quick Check Plus

Chuck Atkinson Programs, Route 5, Box 277-C, Benbrook, TX 76126-9990, (817) 249-0166.

\$195 for Quick Check Plus. Options: Quick Check (without AP) \$49.95; Quick Check (without AR) \$95; Quick Register module \$395; Cash Drawer \$295

SBAcount

Micro Art Programmers, 173 Birch Ave., Cayucos, CA 93430, (805) 995-2329.

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The Little Accountant That Can

The Little Software That Can Company, 7322 Oak Manor Dr., Suite 37, San Antonio, TX 78229, (512) 349-3924.

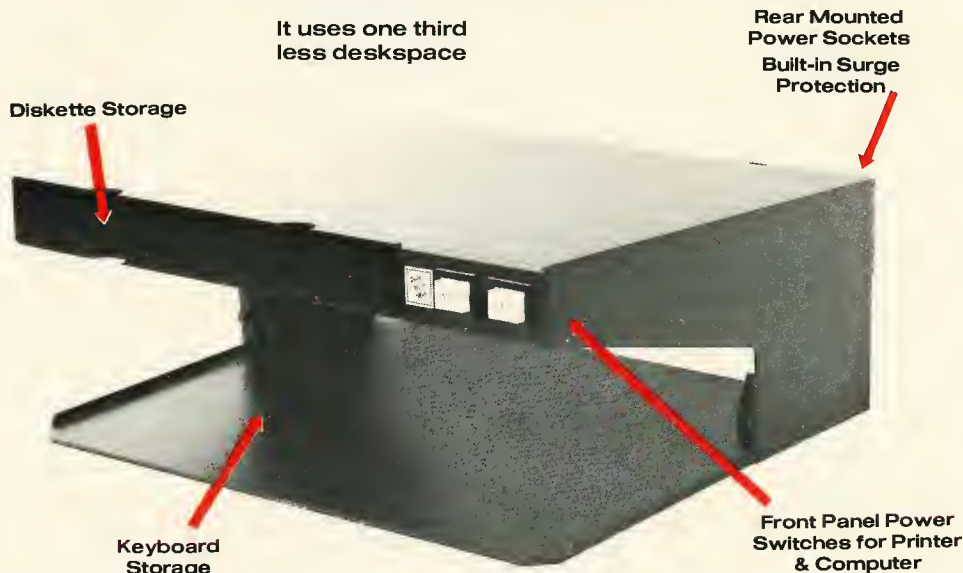
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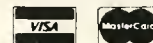
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We know that floppy disk users don't appreciate shuffling four or five disks in and out per application. We know that no users like to abort in the middle of an application to change printer pitch. We know that users don't like copy protection and complex licensing agreements. We don't believe that any systems with these 'features' can be considered easy to use so we left them all out of CPI Business Systems.

Fancy packaging and expensive type set manuals add greatly to the cost of most application packages but have little lasting value. Once your system/s are up and running for a week or so their real worth is their day-to-day productivity and responsiveness; the other materials gather dust. CPI Business Systems include **comprehensive manuals, sample data files, tutorial sessions, etc.—everything you need is included.** Our manuals are prepared and printed on computer systems.

No system is perfect; CPI Business Systems are not exceptions. That's

why users are entitled to support when they need it and that's why CPI continues to enhance each system regularly based on user's suggestions.

Most users need a little support when getting started so we include 45 days of FREE support with each application. Others charge hundreds of dollars extra. Users of CPI Business Systems can extend support for a full year for less than ten cents per day per application.

CP/M users may become MS-DOS users in the years ahead; CPI has planned ahead for this possibility and we provide data file conversion service to any user. CPI will, however, continue to support and enhance these fine systems for CP/M users for years to come. Your investments today will not be obsoleted by tomorrow's technology.

These powerful systems are described briefly below. If you don't feel confident yet ask for our 30+ page overview or try an application demo system at half price (demo prices apply to future system orders).

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HARDWARE REQUIREMENTS

CP/M: 64K (53K TPA) & CP/M 2.0 or higher.
MS-DOS: 128K (or more) & MS-DOS/PC-DOS 2.0 or higher - ANSI.SYS.
Printer: 132 columns (compressed pitch supported), continuous forms.
Disk/s: Dual Floppies/Hard Disk/Both - 191K recommended, less works.
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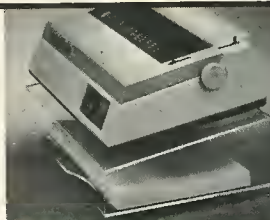
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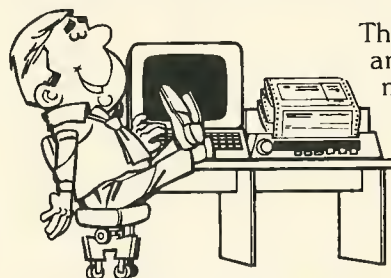
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- MBASIC to Turbo
- Sorting algorithms
- C programming language

Beginner's Luck

by Leslie Gadallah

For a long time my Kaypro sat on my desk like a magic box. Daily miracles came out of it, which I accepted with wonder and gratitude. I lacked the courage to lift the lid and look inside for fear the magic might escape.

On the other hand, I reasoned, a little understanding might smooth over the rough spots. Besides, curiosity is powerful motivation . . .

Now, I want it understood. I am only saying this *can* be done, not that it *should* be done. Before you go looking for a screwdriver, realize that opening the cover will void your warranty. Don't kid yourself that the dealer will never know. The thread sealer on the cover screws isn't there for decoration. Furthermore, there's the potential of actual, physical danger from the high-voltage power supply and residual voltage held in some of the capacitors. So before you even *think* of lifting the lid, be sure the power to your computer is turned *off* and has been off for a couple of hours.

So, okay, on that fateful day, with a local expert on hand to answer questions, I gathered up my intestinal fortitude, pulled the plug, found a screwdriver, took the cover off and peered in.

Nothing happened. This is the inside story.

Disk drives

About a third of the space inside the machine is occupied by the metal box that houses the disk drives. The drives are technically peripheral devices rather than part of the computer proper. They are used to store information on disks.

Each drive contains two electric motors, one to make the disk go round and the other to position the read/write head.

The head rides on the disk and functions very much like the recording head on a tape recorder. (If

you have double-sided drives, there will be two heads in each, one above and one below the disk.) Information is recorded on magnetic tracks that lie in concentric circles on the disk. When they are being read, these tracks induce tiny electrical currents in the head, which are then translated and stored in memory. When the disk is being written to, pulses of electricity are supplied to the head to produce magnetic changes in the iron oxide coating on the disk.

The CRT

The other item that takes up a considerable amount of space is called the CRT (cathode ray tube)—or, if you're in front of it, the screen. The CRT looks for all the world like a small TV. To all intents and purposes it *is* a small TV, less the receiver. Instead of picking signals out of the airwaves, this CRT gets signals from the computer.

It also has its own controller (on the back left corner of the board), which rewrites the screen about 50 times a second to keep the display bright and unwavering. The controller also remembers what's supposed to be on the screen, and where the cursor is. When a character is to be printed on the screen, it comes to the controller as the ASCII code. The controller looks in the character ROM for the pattern of dots to match that code, lights that pattern on the screen under the cursor, and moves the cursor over one space.

The heavy-duty electrical equipment half hidden under the tube is the high voltage power supply to run the CRT.

The main power supply is fastened to the back wall. It takes ordinary household electricity and turns it into smooth, low-voltage, direct current for the computer.

The mainboard

The mainboard is not really a board at all. It's a thin slab of greenish fiberglass.

Upon the mainboard are etched a multitude of fine copper lines. These are the "wires" that connect all the little parts together. A lot of the parts are capacitors (looking a bit like small M&Ms) and resistors (the wee striped tubes). They are mainly involved in keeping the electronic signals neat and clean and insuring that a signal arrives at its destination when it's due to arrive and not before.

The well-known, and often-discussed chips reside within the dark, rectangular forms that take up most of the space on the board. To purists, these units are dual-in-line packages. ("Dual-in-line" for the two rows of pins that stick down from the sides, making the things look like so many robot centipedes.) The pins connect the chip to the rest of the circuitry. The actual chip of crystalline silicon, with all its microscopic circuits and gates, is embedded within the package, and there's no way to get to see it without destroying the package and everything it contains.

The CPU

The heart of the computer is the CPU (central processing unit). When it's all on one chip the CPU is also called a microprocessor. It's the largish chip in the middle of the front edge of the board, and it should be labeled Z80 CPU.

Your CPU consists of two main parts, the arithmetic logic unit (ALU) and the control unit (CU). It also contains a small amount of special-purpose memory where it stores important information, such as where the next instruction will be found or the data it's working on now, and memos to itself about internal conditions.

Beginner's Luck

As its name would imply, the ALU does arithmetic and compares numbers. The CU makes sure that events occur in their proper order, keeps track of the addresses, and decodes instructions. It's more or less the strawboss of the whole operation, telling the ALU, "Get that data from over there, do this to it, and put the answer here."

Information flows in and out of the CPU by means of buses—not Greyhounds, but a contraction of "omnibus connectors." The data bus carries information to and from memory, the address bus carries the numbers required to locate a single byte of memory, and the control bus carries signals to and from various parts of the computer.

RAM

Computer memory doesn't really remember things the way you do. It just stores information. It might be better named "the library."

The RAM (random access memory) is in that row of identical chips one row in from the left side of the board. RAM is actually a great many microelectronic switches that can be either off or on. By letting OFF represent 0 and ON represent 1, each switch can store one binary digit. For this reason, the switches' contents are usually called bits, *binary digits*.

Bits are written or read eight at a time, the unit being referred to as a byte. A byte stores one character or one number or one instruction to the CPU. (This is not unfailingly

true, but the exceptions are handled within the CPU and don't worry appliance operators like me very much.) Every byte in memory has a unique address, as each house in a city has an address. If you imagine all the bytes of memory laid out on a square grid, a row and column number would identify the location of any given byte.

All the instructions and all the data the CPU needs must be in memory. When it fetches an instruction or some data, the CPU reads it from the memory byte specified by a certain address. This leads to a problem. When the power goes off—instant amnesia. Everything in RAM vanishes.

ROM

Well, not quite everything. Because of this tendency toward forgetfulness, we have a couple of kilobytes of a different kind of memory, in which the switches were permanently set at the factory, and they stay set, even without power. It's in the chips with the bits of tape on their tops. This is ROM, read only memory, and it contains enough instructions to tell the CPU to look on a disk for the operating system and to run the CRT display. Nothing the computer can do will have any effect on the information in ROM. You can muck about with it if you're determined enough, but you run the risk of making the poor machine completely lose its mind.

Clocks

We also have clock crystals, three of them, white, with metal tops. The white part is actually a cushion, and the crystal is within the tiny metal can. These are quartz crystals similar to the ones in electronic watches, except they don't tell time, they just vibrate.

These vibrations are used to synchronize events within the

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Simon & Simon
Photography

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SCS-Draw gives you a variety of useful drawing tools to choose from. You can draw a detailed image dot-by-dot, or do a rough sketch with straight lines. Need a compass? **SCS-Draw** can draw circles of any size, wherever you need them.

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computer. One crystal regulates the CPU, another one times the CRT controller, and the third crystal controls the baud rate (how fast information is passed in and out of the serial ports).

The other large chips on the board are the port controllers, which handle information coming into or going out of the computer.

These are the main components of a functional computer—except for the most important interface, the one between me and the machine, the keyboard. So how does the machine know I've typed something and what I've typed?

The keyboard encoder

This is the job of the keyboard encoder device, which is under the keyboard. The keyboard encoder is constantly on the watch, scanning to see if anything is happening at the keyboard. When it finds that a key has been pressed, it identifies the key and sends the appropriate code to the CPU.

The CPU does two things. First of all it decides if this is a character that should be displayed. If so, it sends the code on to the CRT controller so the character will be written on the screen. It also processes the input according to the instructions of the program currently running. If I happened to be working with a menu, the character might cause a jump to a different part of the program. If I'm in the middle of a WordStar file, the character may be added to my manuscript file.

This completes the grand tour. Incidentally, when reassembled, my darling machine works as well as it ever did. None of the magic has been lost. □

Leslie Gadallah is a freelance science writer who shares a small farm in Northern Canada with her family and some critters.

XtraKey out "keys" the competition. Here's why!

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There's no question about it. The things that XtraKey can do through key redefinition just plain make your computer a whole lot easier and faster to use.

Things like reducing long and complicated command sequences or repetitive typing to one or two keystrokes. Boilerplate. Macros. Changing keyboard layouts. SmartKey II Plus can do this too, but that's about it. With XtraKey, you get so much more.

Our comparison chart lists just a few of XtraKey's features. We could have included XtraKey's built-in screen dump to printer function, typewriter mode, caps lock function, printer on/off feature, printer output to screen redirection, or built-in menu. But we didn't. After all, things are one-sided enough.

XtraKey is easy-to-use and comes with a 90-page manual and quick reference card. Still only \$49.95.

FEATURES	XtraKey	SmartKey II Plus
Keys may be redefined even while running another program ("on-the-fly").	YES	YES
Mistakes made while entering a definition can be corrected without having to reenter.	YES	NO
All keys, including numeric keypad and cursor keys, can be directly redefined.	YES	NO
Number of extra definition sets ("shifted") that can be used at any one time.	7	1
Maximum number of characters per definition or all definitions combined.	NO LIMIT	3,838
Bytes of memory required per 500 bytes of definition data.	500	1,000
Definitions can be sent to printer, CRT, or punch device (in any combination).	YES	NO
Definitions can "chain to" or activate other definitions.	YES	NO
Automatic definition file loading.	YES	NO
Disk space required in minimum configuration to use and save definitions.	7K	24K

SmartKey II Plus is a trademark of Software Research Technologies, Inc.

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New ROMs for 84 KayPros

The wait is over! We now have two new ROMs and both are for the 84 series KayPro 2 and 4.

Pro-884

This ROM provides the benefits of the original Pro-8 to the 84 owner. With the Pro-884, you can run any mix of quad density (784K) drives and double-sided double density drives as A: and B:. Plus, if you plug-in the decoder board, you can run up to four drives.

Pro-884 MAX

The MAX gives you all the advantages of the Pro-884, plus faster screen scrolling, ZCPR in ROM (you "warm boot" on any disk, whether it has system tracks or not), screen dump, ctrl-p type printer output, and VTS2H/19 terminal emulation in addition to the original ADM3, to name a few. (We worked on this hummer for nearly a year.) If you need more information on the Pro-884s or our '83 compatible ROMs, call, write, or yell for our KayPro Users Catalog.

Pro-884	\$59.95
Pro-884 MAX	\$79.95
Decoder Board	\$39.95

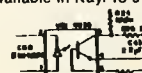
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PRICELESS

MAGAZINE

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August-September 1985

TABLE OF CONTENTS

No. 25

Why I Wrote A Debugger	4
Xerox Monitor Modifications	26
Direct BIOS Calls in CP/M	30
Review: Media Master	35
Color Speedometer For The Kaypro	45
The 32-Bit Super Chips	49
Programming The 32032 Co-Processor	50
Turbo Memory Assignments	52
Modula II (excepts from a talk by Niklaus Wirth)	58
Cheap DC To DC Converter	74
Extending RATIO	76
The S-100 Bus	81
In The Public Domain	85
Cling Clearly	11
The Xerox 820 Column	13
The World	16
The Kaypro Column	21
FORTHwords	38
Pascal Procedures	46
Regular Features	63
On Your Own	70
Technical Tips	98
Culture Corner	104
Future Tense	
Tidbits	
The Last Page	

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Technical Forum

by Tom Enright

Last month we began covering the MS-DOS/PC-DOS environment, collectively called DOS, with a discussion of named directories and pathnames. This month we'll continue the discussion by covering the user-defined search path provided by both versions of DOS.

Named directory review

From last month you'll remember that DOS versions 2.0 and later support an "inverted tree" directory structure. The key characteristic of this structure is that all disks, floppy or hard, begin with one directory—the ROOT.

From the ROOT directory you can create any number of subdirectories, naming them whatever you choose. You may then create as many subdirectories of the subdirectories as are needed. Each subdirectory is referred to as a "branch" of the directory one level closer to the ROOT—hence the tree terminology. And, since these "branches" grow down from the ROOT, the entire structure is called an "inverted tree."

There is no limit, other than disk space, on how many directories a disk can have. Each named directory exists on the disk as a special type of data file. These directory files contain the directory entries of their member files and pointers to any subdirectories they may have. Since each named directory is actually a data file, the upper limit on the number of directories is the amount of available disk storage.

Pathname review

Whenever you want to manipulate named directories, special "directory commands" are used. These commands are **CHDIR** for changing directories, **MKDIR** for creating new directories, and **RMDIR** for erasing a directory.

A "pathname" is required when using these commands. This is the route DOS must take to find the directory in question. Depending on where the target directory is in relation to the current directory, the "pathname" can reference a route from the current directory or from the ROOT directory.

DOS also supports two "short-hand" notations for moving between directories. To move to the "parent" of the current directory, a simple **CD ..** is all that's needed. And to go from any directory to the ROOT directory, just enter **CD **.

Search paths

Closely related to pathnames is the user-defined search path. This tells DOS where to look for a program that it can't find in the current directory. Without a search path, each directory would be totally isolated from every other directory. Then you'd need to have a copy of each program you wanted to run in every directory.

Under Kaypro's version of CP/M, any program in user area 0 is available to all other user areas on that disk. Under DOS 2.0 and later, the search path serves the same function. Creating a user-defined search path means that you specify which directories are searched and in what order. The **PATH** command establishes search paths.

PATH is an internal DOS command. An internal command means that it is part of **COMMAND.COM** and does not exist as a separate file on your disk. So, the **PATH** command is always available, no matter where you are.

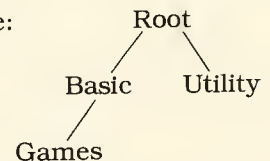
To find out what the current search path is, just type **PATH** and press RETURN. DOS will then print the current search path on the screen. To establish a new search path, the command is **PATH \DIRECTORY1;\DIRECTORY2**

where **\DIRECTORY1** and **\DIRECTORY2** are the directories you want searched if a program is not in the current directory. Each directory name in the **PATH** command is separated from the preceding one by a semicolon.

Search paths in action

Now I'll illustrate a search path in action.

Example:



This is the same directory structure that we used for last month's example: a ROOT directory with two branches, BASIC and UTILITY. The BASIC directory has one subdirectory called GAMES.

Suppose that you now want to establish a search path that will find a program in the ROOT, UTILITY, or BASIC directories. You would type the command **PATH C:\;C:\UTILITY;C:\BASIC** and press RETURN. Now, when you enter a program name that isn't in the current directory, DOS will look for the program in the ROOT directory, then in UTILITY, and finally in the BASIC directory.

Notice two things about this search path: the GAMES directory is missing and a drive name is given for each directory.

On a hard-disk system like the Kaypro 16, DOS boots from the hard disk, which is drive C. Since this search path needs to work even if you're logged onto the floppy drive, where there may be no directory structure, the search is restricted to drive C by including a drivename for each directory.

Since the GAMES directory probably contains game programs, there's no reason to include it in the search path. If for some reason you

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Technical Forum

wanted to include GAMES in your search path, you'd have entered ";C:\BASIC\GAMES" after ;C:\BASIC in the PATH command. The important thing to notice in this example is that you must specify the "complete pathname" from the ROOT directory.

The PATH command does not allow "relative" pathnames, only complete ones. Perhaps a further illustration of "relative" pathnames is in order. Suppose, just for now, that you haven't established any search path. Now imagine that you're in the BASIC directory and want to run a program in the GAMES directory. Since you are in BASIC and want to run a program in GAMES, which is a subdirectory of BASIC, you can enter \GAMES-PROGRAMNAME to run that program. This is a "relative" pathname because you are specifying a pathname "relative" to your current location in BASIC.

You might think that the PATH command would also allow you to specify a directory relative to the preceding entry in the directory list. Well, it doesn't. You have to specify a complete pathname from the ROOT directory. By definition a "complete pathname" is the entire route from the ROOT directory to the target directory, including all other directories that you pass through along the way.

You might think that search paths allow you to run any program from anywhere on the disk. Well, almost. You still have the problem of programs like WordStar, which have to read overlay files while they're running. WordStar looks for its overlay files in the currently logged directory. You can still run WordStar, but you'll get an error message saying that WordStar cannot find the overlay files. Not every program can take advantage of DOS's search path. □

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Books in Brief

by Dick Lutz

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It becomes hit-and-quit reading, but there's plenty of value. Often, hotshots who've figured out useful answers to problems can't or won't take the time to write books—or maybe the material doesn't warrant a hard cover and harder price tag. But in article form, this stuff draws the readers advertisers want to reach—and thereby hangs the neat arrangement that makes these magazines totally advertiser-supported.

You usually must request your subscription on company letterhead, and you'll be rejected if you can't provide the right answers on the form provided.

Here are capsule looks at a dozen and a half of the freebie magazines that can help you make good business use of your Kaypro—followed by information on where to write to ask for your regular copy.

Unless otherwise noted, these are all monthly publications.

Industry magazines

Computer Consultant, published in tabloid newspaper form, isn't as fully specialized as its name suggests, though many of its articles are intended for active consultants.

June's issue considered AT&T's recent stumbling in the micro marketplace, with consultant William Zachman of International Data Corporation attributing the company's troubles to playing it safe. Another piece provided solid, practical information about how to take advantage of AT&T's new moves to court consultants.

Headlines, art and photos tend to be too large and the articles themselves too spare; ads tend toward the institutional. There are reviews and a new products section. This publication's title defines its audience; it could gain strength as its editors find more practical ways to serve those readers.

Today's Office calls itself "the magazine of business operations management" and tries mightily to rise above the strictures of its name. A July consideration of the micro of 1990 came near succeeding, but the tone set by the editor-in-chief was telling: Her column advised use of courtesy in the office. Typical of 15 priceless tips: "Say 'please' and 'thank you.' "

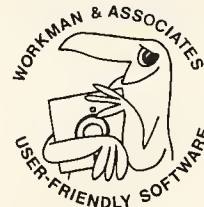
Ads, the products section and articles deal with more than micros: copiers, PBXs, ball point pens. Product source lists accompany features. Feature content and thrust are improving and becoming more computer-oriented: August covered "desktop publishing" and provided an introduction to local area networking.

Office Systems 85 is a similar but slimmer monthly. It struggles—not always successfully—to deal with topics other than computers, and tries to "serve as a showcase of state-of-the-art developments of interest to small and medium-size users in the office systems environment."

Business Computer Systems is one of the most mature and therefore strongest publications in the

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field, well supported by advertising, nicely departmentalized, well formatted. Its staff writers are good, serious about their subjects, and have access to knowledgeable sources in the industry.

Contributing writers are typically employed in situations that give them first-hand knowledge of their subjects. The magazine makes excellent use of sidebars, those boxed mini-articles that bite off a chunk of subject and draw the reader in with their apparent conciseness. Probably the best new products section in the field, divided into hardware and software. Reader service for editorial material as well as ads.

Infosystems uses sidebars well, too, and runs a definite second to *Business Computer Systems* for strong editorial content. Its greatest strength is Senior Editor Jan Snyders, whose software column is a must-read every month.

Mini-MicroSystems, like BCS a Cahners publication, has been a strong source of small-system news for years, running ahead of most other publications for editorial strength. Both news and feature sections are seldom rehashes of the well-known; rather, they tend to be on top of the most recent technical developments.

Good diagrams and excellent detailed periodic summaries of products available to do various jobs. Four special issues each year concentrate on this particular strength. Technical, rather than business, in orientation, but valuable for business readers because of this clear focus. Good graphics. Ads that don't talk down to the magazine's audience. Excellent products section.

Modern Office Technology appears to be advertiser, rather than reader, oriented—a problem one would expect to find more often

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TERMS: We ship via first class mail. The above prices include domestic shipping and handling. Orders outside USA require additional \$5.00 for postage. N.Y. residents add state sales tax. When ordering you MUST state your computer and printer make and model. We support MS-DOS (PC-DOS) version 2.0 or later on computers with at least 192k RAM, and CP/M-80 version 2.2 or later on Z80 computers (other than modified Apples) supporting a TPA of at least 54k (requires 64k of RAM). Most soft-sector disk formats are available. (If you can read several formats, please send us a list.) GRAF 3.0 works with any printer fully compatible with one of the following: Epson FX, RX, LX, MX (with GRAFTRAX), or LQ-1500; C. Itoh Prowriter; NEC 8023A; Star Micronics Gemini 10X, 15X, SC-10, SC-15; IBM Graphics Printer; Okidata 192, and earlier Okidata models equipped with the "IBM Plug 'n' Play" chips. (If you have an Okidata printer, other than the 192, the Plug 'n' Play chips are required!)

\$ 49⁹⁵

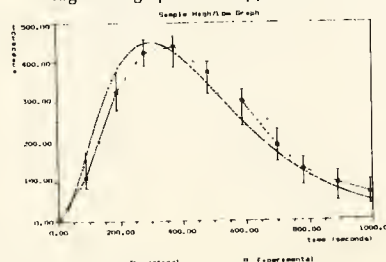
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Books in Brief

in a field so clearly dependent on advertiser good will. Occasionally there appears to be a lack of editorial coordination, with the same product getting treatment in separate sections. Features tend to flatter their subjects rather than offer much practical information. Lots of non-computer content.

Computer Dealer works hard at being practical for its audience, dealing with sales techniques, vertical marketing, product display, and customer relations. Good new products section nicely divided into categories, but perhaps too slavish to company press release claims. This is the kind of magazine computer stores should have around for quick between-customer salesperson education, but it's not for non-dealers.

PC Products is "for business users of IBM PCs and compatibles." Another strong Cahners publication, it's now in its second year of evolution. It's become one of the best product-oriented publications available in a publication field where virtually everything, after all, is product-vectored. "Products" means software and hardware, in this case, with coverage ranging from brief "reports" apparently condensed from manufacturers' announcements to full-blown reviews. The IBM PC focus is unswerving, though of course many of the products introduced and reviewed are also useful with eight-bit hardware.

Computer Products is a tabloid-size publication that appears ten times a year. It's a new products section that has spun off in a mad life of its own. Best use: As a textbook on how to write new product releases for hardware companies' PR departments.

Computer Systems News is a weekly CMP Publications tabloid newspaper that's ideal if your busi-

ness involves following the computer industry very closely. The coverage is thorough and departmentalized for easy access. In addition to straightforward treatment of news, CSN publishes opinion columns and a monthly "take-out" magazine called *VARbusiness* that caters to the value-added and niche-oriented marketer.

Communications Week is a sister publication to CSN that will keep you informed of the data communications industry's machinations—an arena so complex that to glance at it is to be swallowed by confusion. Nonetheless, the paper provides the raw material for insights into trends if you're trying to follow the market.

CMP also publishes *Electronic Engineering Times*, another weekly tabloid that neatly targets a niche-ful of readers. This one is newsy, too, but after the requisite financial stuff it gets right down to the component level. It can get pretty thick, but it's a place to develop a sense of what might be hot in the industry months hence.

Micro MarketWorld is one of the "—World" publications of CW Communications, which also puts out *InfoWorld*. It's for dealers, for the most part, though as a weekly it's more newsy than *Computer Dealer*. The "News and Trends" section can keep you a few weeks ahead of the business—and perhaps keep you from buying a computer that's already taken on an odor of obsolescence.

Four final publications may be worth your attention if you need to take a regular close look at what engineers are thinking about. They are *Digital Design* (monthly), *Computer Design* (semimonthly), *ED* (biweekly), and—best reading of them all—*Electronic Design* (biweekly). In these magazines, you can lose yourself in state-of-

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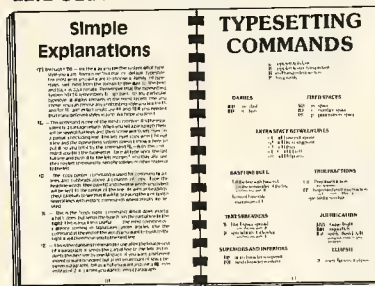
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Books in Brief

the-art graphics, sound, and communications technology. This is pretty good if you want to try to anticipate new directions in digital technology, but it's often rather dense material for the layperson.

In the list that follows, prices shown are for "non-qualifying subscribers."

Publications Summary

Business Computer Systems
Cahners Publishing Company
221 Columbus Avenue
Boston, MA 02116
free/\$40 a year

Today's Office
Hearst Business
Communications, Inc.

645 Stewart Avenue
Garden City, NY 11530
free/\$30 a year

Computer Dealer
Gordon Publications
PO Box CD
Winter Beach, FL 32971
free/\$60 a year

Computer Systems News
CMP Publications
PO Box 2030
Manhasset, NY 11030
free/\$65 a year

Mini-MicroSystems
Cahners Publishing
PO Box 5051
Denver, CO 80217
free/\$65 a year

Modern Office Technology
Penton/IPC
PO Box 95795

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(Digital Research, Inc.)

Cleveland, OH 44114
free/\$70 a year

PC Products

Cahners Publishing Company
275 Washington Street
Newton, MA 02158
free/\$40 a year

Infosystems

Hitchcock Publishing Company
Hitchcock Building
Wheaton, IL 60188
free/\$65 a year

Computer Consultant

Seniority Magazine, Inc.
208 N. Townsend Street
Syracuse, NY 13203
free/\$25 a year

Communications Week

CMP Publications
600 Community Drive
Manhasset, NY 11030
free/\$65 a year

Electronic Engineering Times

CMP Publications
600 Community Drive
Manhasset, NY 11030
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Micro MarketWorld

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Southeastern, PA 19398-9980
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Randolph, NJ 07869-0962
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Office Systems 85

941 Danbury Road
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Georgetown, CT 06829
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EDN

[Electronic Design News]
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275 Washington Street
Newton, MA 02158
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Electronic Design

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Hasbrouck Heights, NJ 07604
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Computer Design

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Littleton, MA 01460
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Morgan-Grampian Publishing
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paper. I switched to sheet feeding and used different colors for different journals—green for cash journals, pink for payroll, white for general journal, blue for sales journal, gray for accounts receivable schedules and yellow for the trial balance. Not only are they colorful, but they've also become major selling points in getting other clients.

For me, the whole experience has

been fun, despite the setbacks I described. My father would be proud of me for practicing as hard as I did and for making do with what I got for free. My pleasure comes from the amazed looks of users group members when I show them how Calc does billing, inventory, lists—anything that requires neat columns. We even set up an appointment calendar, lines

and all. And of course, for those with a bookkeeping background, Calc's a gem!

Calc and I have now settled into a loving relationship. We keep growing, and our communication is excellent. I feel sad when I talk to users group members who bought accounting programs that barely work, or are struggling to write their own programs. They spent good money, and with a year of hard study behind them have only part of their paperwork on computer. They still retain accountants for their monthly general ledgers. A few switched from one program to another, hoping for improvement. Sometimes the new programs worked; sometimes they didn't.

Wedded bliss

I remain faithful to Calc. Other members laugh at me for being old-fashioned, for not taking a new lover like dBASE II, TCS, Accounting Partner, or Ex Calibur. I've looked at most of them. Their manuals are no better or worse than Calc's, and without good documentation, I'm loath to try anything new. I've already spent too much time and energy on what I know. Besides, I get a kind of sadistic glee out of watching others struggle with their inflexible accounting programs while I merrily create new reports, forms, and schedules at will. In the end, Perfect Calc and I have the last laugh . . . all the way to the bank. □

Rose Green is semi-retired, having left her 9-to-5 job in New York to go to Las Vegas, buy a Kaypro, and develop a home computer service. In the process, she organized the Las Vegas Kaypro Users' Group, now more than two years old, with 165 members. She is still the acknowledged "Elmer's Glue" that keeps it all together.

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all over again.

**FIGURE 5:
INFORMATION FOR THE REPORT FORM**

For margins, type ONLY: 1,55,78
Yes, you want a page heading.
The page heading is GENERAL LEDGER.
No double spacing.
Yes, totals are required.
Yes, there are subtotals.
The subtotals field is FOLIO.
No, you want a full report, not a summary.
No eject after subtotals.
There is no subtotal heading.
First col. width/contents: 3,MONTH
Heading: MO.
Second col. width/contents: 3,DAY
Heading: DAY
Third col. width/contents: 34,ACCOUNT
Heading:
ACCOUNT TITLES AND EXPLANATION
Fourth col. width/contents: 3,FOLIO
Heading: FOL
Fifth col. width/contents: 9,DEBIT
Heading: DEBIT
Yes, totals are required.
Sixth col. width/contents: 9,CREDIT
Heading: CREDIT
Yes, totals are required.
Seventh col. width/contents: 4,TRANSNUM
Headings: #
At the eighth col., enter a carriage return.

Other manipulations

Someday, you'll need DELETE and PACK. Position the database at the record you want to delete and DELETE it. In dBASE II, DELETE only marks records for deletion. It is PACK that actually rids the database of the DELETED records.

When you get a "syntax error," a command that has not been issued properly, dBASE gives you a chance to change the error without reissuing the whole command. When the screen asks "Change from:", reproduce the area that's wrong. When the screen asks "Change to:", make the correction you need to make. A carriage return may be used instead of an N to answer the questions.

A ^P is the toggle switch that sends material to your printer. If, for instance, you type LIST ^P, the listing goes to your printer. Don't forget to issue another ^P at the end of the listing to return to normal operation. The ^P generates great little informal reports.

To INSERT a record, go to the record just above where you want

to make an insertion. If you GO TOP and INSERT BEFORE, you can add a record to the top of the database.

You can browse selected fields. Type GO TOP and BROWSE FIELDS ACCOUNT,TRANSNUM. If you make changes, end with a ^W. If you've made no changes, end with ^Q.

As you may have noticed, you

can display more than just the information in your database. Try HELP DISPLAY to see what the help file says.

The checking account

To make a separate database from the checking account entries, type COPY STRUCTURE TO B:CHECKING, then USE B:CHECKING. This

(continued on page 77)

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BOOKKEEPING

(continued from page 75)

is an important step, because we're about to modify the structure of CHECKING. The modification destroys all records, and you want to be sure you're in a database without records.

MODIFY STRUCTURE and change the width of the TRANSNUM field from three to one character in width. Write the file with ^W and **APPEND FROM B:GJ FOR FOLIO='102'**.

Now **REPLACE ALL TRANSNUM WITH TRANSNUM='0'**.

Finally, **GO TOP** and **BROWSE**. Individually, change the "transaction number" to 1 for all checks and deposits that have cleared the bank. The cursor and return keys will move you around. A ^W will write the changes.

SUM DEBIT — **CREDIT** gives you your checkbook balance.

SUM DEBIT — **CREDIT FOR TRANSNUM='1'** gives you the bank statement balance. Once a

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Type **QUIT**.

And there you have it: a fast, functional introduction to dBASE II, complete with application. What else can you do with it? Plenty. dBASE has its own programming language, and we haven't even looked at its capability as a relational database management system. Have fun. □

John Morris is a writer-photographer who has written several books on a Kaypro II. His latest is a high school text, Guide to Photography, published by Bennett & McKnight.



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Advertisers' Index

Advertiser	Page No.	Advertiser	Page No.
Accent Graphics.....	72	Microcomputer Systems	
Adevco, Inc.....	72	Consultants.....	70
Advent Products, Inc.....	35,46,47	Micrometrics.....	72
Alpine Data.....	66	MicroSolutions.....	75
Arizona Plastics.....	76	MicroSphere.....	1
B.C. Software.....	24	Mycroft Labs.....	Inside Back Cover
Bizprof Software, Inc.....	76	Ohio Plastics.....	58
Blackship Computer Supply.....	78	Omnicom.....	68
Borland International.....	45	Paradigm Consultants.....	21
CDE Software.....	9	PeopleTalk Associates.....	12,13
Central Computer Products.....	25,26,27	Point Data Products.....	74
Chaucer Software.....	5	Poor Person Software.....	76
Chuck Atkinson Programs.....	58	Practical Business Software.....	77
Civil Computing Corp.....	66	PROFILES Magazine.....	34
Computer Friends.....	4	Pro/Tem Software, Inc.....	71
Computer Perfect.....	32	Quadravoice, Inc.....	17
Computer Professionals, Inc.....	57	Rocky Mountain Software Systems.....	67
Computerware.....	51	Rose Associates.....	54
Controlled Printout Devices, Inc.....	78	Second City Software.....	60
Cuesta Systems, Inc.....	33	Seltz Corporation.....	23
Custom Program House.....	76	SoftCraft, Inc.....	73
Decision Sciences, Inc.....	78	SOS Computing.....	56
Diskette Connection.....	51	Spectre Technologies.....	11
Diversified Software Co.....	70	Stanton Software.....	6
Edu-Kids Software Co.....	72	Sunsoft Inc.....	80
Financial Track Systems, Inc.....	24	Techware.....	16
Frank-Art.....	65	Tellon Software.....	38
H & E Computronics.....	Back Cover	Traveling Software.....	79
High Tech Research Inside Front Cover		TSK Inc.....	23
High Technology, Inc.....	22	Wall Street Journal.....	19
Hurd Computer Systems.....	69	Walonick Associates.....	15
James River Group.....	53	WestWind Computer.....	2
Kamasoft.....	56	Woodsmith Software.....	7
Komputerwerk.....	15	Workman & Associates.....	69
Micro-Art Programmers.....	7	Writing Consultants.....	52
Micro Cornucopia.....	62,63	Xerox Americare.....	65
Micro Horizons.....	16	Xpert Software.....	61
Micro R & D, Inc.....	17		

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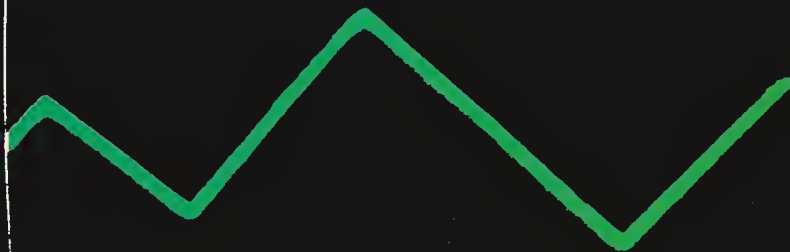
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